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Trust and Conservation Opportunity: the importance of trust in landholders' decisions to participate in conservation programs

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TRUST AND CONSERVATION OPPORTUNITY: THE IMPORTANCE OF TRUST IN LANDHOLDERS' DECISIONS TO PARTICIPATE IN CONSERVATION PROGRAMS

By

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Accepted in Partial Completion
of the Requirements for the Degree
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MASTER'S THESIS

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Analiese C. E. Burns

May 8, 2017

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Master of Arts

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Abstract

Natural resource management efforts have historically concentrated on ecological goals to identify and prioritize conservation actions. However, successful implementation of conservation actions on private land requires conservation opportunity, or the willingness of landholders to participate in and accept conservation actions. Conservation opportunity on private land depends on a range of structural and social factors. Recent research emphasizes the importance of social factors and suggests incorporating social factors in conservation actions is necessary for the long-term sustainability and equitability of environmental change. The social factor of trust has been shown to strongly influence landholder's decision-making. For this research, trust is defined as a belief that someone or something is good, reliable, honest, and effective. However, trust is complex and sometimes difficult to predict. In addition, trust can be regionally specific and little research exists on trust in the Pacific Northwest.

This study seeks to increase understanding of trust and the importance of trust in conservation opportunity on private land in the Pacific Northwest. In this study, trust is comprised of six constructs: Personal Relationship, Social Structure, Reciprocity, Shared Worldview, Social Commitment, and Participation in Decision-Making. The researcher utilized self-administered surveys to measure landholders' level of trust in conservation organizations and answer three research questions: Are the constructs associated with trust as expected? Which constructs of trust are most important in a landholder's decision to participate in voluntary conservation programs? and What actions could these organizations take to improve trust?

Surveys were distributed to participants and non-participants of four voluntary conservation programs in the Nooksack Watershed in Whatcom County, Washington. The

research results suggest six primary findings. First, survey respondents report trust as equally or more important than other factors in determining conservation opportunity. Second, not all individuals have a uniform definition of trust, yet trust is strongly associated with the degree to which the landholder perceives an individual, institution, or program respects and understands their goals. Third, results distinguish two constructs being reported as most important in determining conservation opportunity within the study group: Social Commitment and Participation in Decision-Making. The construct items reported as least important are affiliation with other groups/individuals and obligation. Fourth, while the landholder's relationship with the organization's representative is important, they do not identify it as the most influential construct item. Fifth, although the literature shows the Shared Worldview construct can predict policy positions, the results of a Shared Worldview "short-form" survey indicate worldview may not be a predictor for who participates and what program they will participate in. Finally, both participants and non-participants believe the conservation organizations have the opportunity to earn or increase trust. Landholders' suggested actions to increase trust varied but included providing long-term on-the-ground work, improved communication, additional opportunities for landholder input, changes to the organization's governance, and effort to change state policy. While results cannot be extended to the general population, the findings have the potential to help conservation organizations within the Pacific Northwest build trust with landholders and increase landholder enrollment in conservation programs. In addition, the findings highlight areas for future research.

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Chapter 1. Introduction

Natural resource management efforts have historically concentrated on ecological goals to identify and prioritize conservation actions. However, successful implementation of conservation actions on private land such as installing native plants and recording conservation easements requires conservation opportunity. Conservation opportunity is the willingness of landholders to participate in and accept conservation actions (Grumbine, 1997; Knight, Cowling, Difford, & Campbell, 2010; Pretty & Ward, 2001). Conservation opportunity on private land depends on a range of structural and social factors.

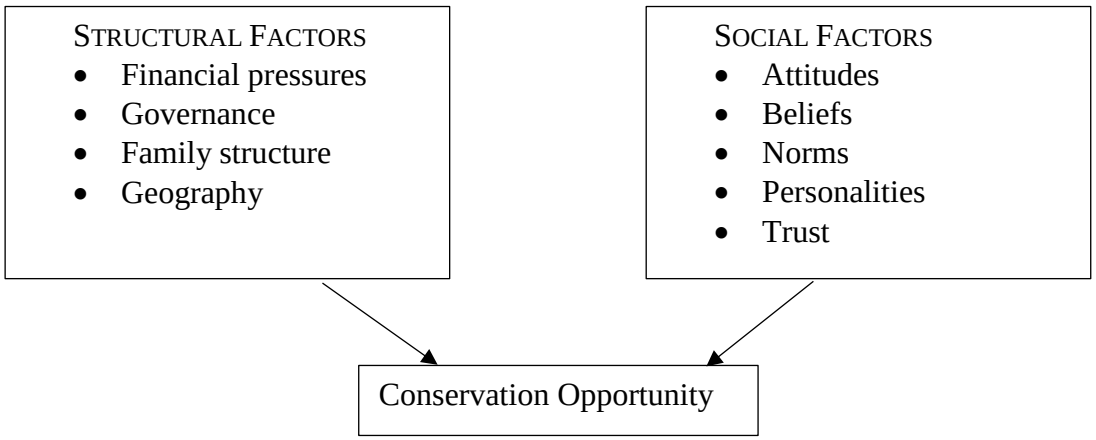
The purpose of this research is to increase understanding of one social factor, trust, and its importance in conservation opportunity on private land. Participants and non-participants in four rural conservation programs in the Nooksack Watershed are surveyed about their views on trust. Survey responses are assessed to determine which constructs of trust are most important in a landholder's decision to participate. The programs included in the study represent four types of conservation programs common throughout the Pacific Northwest. Research findings can inform conservation organizations' staff and Board of Directors' efforts to increase conservation opportunity through building landholder trust and improving landholder communication. The findings can also contribute to the body of knowledge on social factors and their influence on conservation opportunity.

This chapter outlines the conceptual framework and describes the research goals. The chapter concludes with the research's relevance in the applied and academic fields.

Conceptual Framework

The conceptual framework for this research is informed by earlier studies of rural landholders and the factors that influence their decision-making. Many studies in the 1970s through the 1990s were based on adoption theory and generally followed a structurationist approach (Battershill & Gilg, 1997; Newby, Bell, Saunders, & Rose, 1977). A structurationist approach considers landholders' decision-making to be influenced equally by structural and social factors (Figure 1.1). Structural factors encompass aspects of institutions and the family including financial pressures, governance, family structure, and geography (Battershill & Gilg, 1997). Social factors encompass aspects of the individual and their behavior including attitudes, beliefs, norms, personalities, and trust (Battershill & Gilg, 1997; Defrancesco, Gatto, Runge, & Trestini, 2007).

Figure 1.1 Conceptual Framework for Conservation Opportunity



While research in the 1980s and 1990s focused on structural factors, more recent research emphasizes the importance of social factors and how they serve as motivations or barriers for landholder participation in conservation efforts (Defrancesco et al., 2007; Grumbine, 1997; Moon, Marshall, & Cocklin, 2012; Pannell et al., 2006). Some research suggests social factors may be even more influential than structural factors (Battershill & Gilg, 1997; Raedeke, Nilon,

& Rikoon, 2001) and incorporating them in conservation actions is necessary for the long-term sustainability and equitability of environmental change (Pretty & Ward, 2001).

Particularly, in rural communities, the social factor of trust has been shown to strongly influence landholder's decision-making (Moon et al., 2012; Pannell et al., 2006). Trust has been defined as a relationship of exchange where both parties expect that if a benefit is given it will be repaid in the future (Dasgupta, 2000; Marshall, 2004; Ostrom, 1998). For the purposes of this research, trust does not necessarily involve the exchange of goods or services. Instead, for this research trust must encompass the broader concept of an expectation by one person of another person's actions that affects decisions by the first person (Dasgupta, 2000) and determines whether they are willing to cooperate (Ostrom, 1998). Therefore, for this research, trust is defined as "a belief that someone or something is good, reliable, honest, and effective" (Merriam-Webster.com). This definition is broad and encompasses diverse constructs identified in the conservation opportunity literature.

Although trust can be broadly defined, trust is complex and sometimes difficult to predict (Knight et al., 2010; Pannell et al., 2006; Santo, Sorice, Donlan, Franck, & Anderson, 2015). In addition, social factors such as trust can be regionally specific (Amsalu & de Graaff, 2007; Knowler & Bradshaw, 2007) and little research exists on trust in the Pacific Northwest. Therefore, understanding different constructs of trust and their relative influence on private landholders' decision-making in the Pacific Northwest has the potential to increase conservation opportunity within the region.

Research Goals

The research goal is to identify which constructs of trust are most important to the survey group in their decision to participate in voluntary conservation programs. For the purposes of this research, we are using the broader term "landholder" instead of farmer or landowner. The purpose is to recognize not all rural landholders are farmers and not all individuals living on and using the land own their properties. Therefore, "landholders" refer to the individuals managing the property, regardless of their affiliation with agriculture or their ownership status.

The research is not designed to test a theory but is exploratory with the aim of gaining insight on trust in general. This research uses six constructs of trust based on the literature: Personal Relationships (Moon et al., 2012; Pannell et al., 2006; Pretty & Ward, 2001), Social Structure (Moon et al., 2012; Pretty & Ward, 2001; Raedeke et al., 2001), Reciprocity (Ostrom, 1998; Pannell et al., 2006; Pretty & Ward, 2001), Shared Worldview (Kahan, 2012; Kahan & Braman, 2006; Kahan, Jenkins-Smith, & Braman, 2011), Social Commitment (Pannell et al., 2006), and Participation in Decision-Making (Pannell et al., 2006; Raedeke et al., 2001). Each construct is described in detail in Chapter 2. Table 1.1 shows the six constructs and also provides possible ways to measure whether a construct exists. Using the example of Personal Relationship, the literature suggests Personal Relationships can influence participation in a conservation program in two ways: the landholder decides to participate in part because they have a personal relationship with the program representative or because they a personal relationship with someone else who recommends the program. Therefore, the presence of a Personal Relationship can be measured by asking (1) whether there was a strong relationship between a landholder and the program representative or (2) whether a landholder took action based on a recommendation from a friend, neighbor, or family member.

Table 1.1 Definition, Constructs and Measurements of Trust

Construct	Measurement
Personal Relationship	• Strong relationship with program representative • Recommendation from friend/neighbor/family
Social Structure	• Offers expert advice • Provides credible information on threats • Connection with another organization
Reciprocity	• History of providing valuable information • Giving back • Obligation
Shared Worldview	• Individualism vs community
Social Commitment	• Long-term availability/responsiveness • Long-term commitment to conservation
Participation in Decision-Making	• Adequate time to evaluate the program • Opportunity for influencing the program • Involved early in the process

Using the constructs described above, the research seeks to answer the following questions:

1. Are the constructs associated with trust as expected?
2. Which constructs of trust are most important in a landholder's decision to participate in voluntary conservation programs?
3. What actions could these organizations take to improve trust?

Research Relevance

This research will allow private and public entities to better understand which constructs of trust most contribute to conservation opportunity on private land. Organizations included in the study were chosen in part because of their prevalence throughout the Pacific Northwest: a land trust, a government farm assistance program, a community-based restoration organization, and a local government. The findings can also inform other Pacific Northwest programs that operate in rural landscapes such as the Washington State Department of Fish and Wildlife (WDFW) Waterfowl Quality Hunt Program. The findings can inform staff's, managers', commissioners', and Board of Directors' efforts to increase conservation opportunity through building landholder trust. Areas for improvement could include staffing decisions, program

schedules, and decision-making. While some dimensions of trust may not be malleable, the findings will help programs improve landholder communication by better understanding these inherent limitations. Finally, past studies identified the need for additional research on social factors; therefore, the findings can help address this knowledge gap and contribute to the larger discussion of social factors and their importance in improving conservation opportunity. Due to the small sample size, the findings describe the survey group and are not assumed to apply to the general population. In addition, caution should be used in extending findings outside the Pacific Northwest because landholder attitudes vary region to region (Amsalu & de Graaff, 2007) and few if any variables consistently predict conservation opportunity (Knowler & Bradshaw, 2007; Lockeretz, 1990). Nevertheless, findings are expected to help identify potential areas for future research in the Pacific Northwest.

Chapter 2. Literature Review

To understand trust's importance in conservation opportunity, it is helpful to first understand conservation opportunity. Conservation opportunity is the willingness of landholders to implement or accept conservation actions and is based on the understanding that private landholders play a critical role in the success of conservation efforts. This chapter describes why private landholders are important for conservation, summarizes the factors that influence private landholders' willingness to participate in conservation actions, and concludes with a more detailed description of trust, the factor of interest in this research.

The Importance of Private Landholders

Private landholders play a critical role in conservation efforts. Private landholder participation has become increasingly important in recent years due in part to the development of three interrelated concepts: ecosystem management, social-ecological system, and ecological importance of private land. Each of these three concepts are described below.

Ecosystem Management

Ecosystem management is a concept that ecosystems require a systems-based, landscape-scale management approach (Agee & Johnson, 1988; Grumbine, 1994, 1994; Slocombe, 1993). This understanding was first developed by ecologists in the United States in the 1930s. By the 1980s, the ecosystem management approach was widely supported by public land managers and scientists. Ecosystem management contrasts with the historic product-driven approach to natural resource management that concentrated on one component of the ecosystem, such as a single species or single drainage. This historic approach to public land management emphasized the goods and services derived from ecosystems. Land managers focused on determining the wealth

that could be gained from ecosystems. As a result, traditional management goals were to reduce system complexity such that a centralized management approach could increase an ecosystem's productivity, predictability, and control. Instead, ecosystem management, is an alternative management approach formalized by Agee and Johnson (1988) and further refined by Grumbine (1994, 1997) that is not only concerned with goods and services, but with the sustainability of the underlying sources. As a result, greater emphasis has been placed on "linkages between various parts of the system" (Agee & Johnson, 1988) and the long-term maintenance of the ecosystem itself. This shift in emphasis has led to a view of ecosystems as complex and adaptive, in contrast with the more traditional view of ecosystems as simple, with cause-effect relationships (Berkes, 2004).

Fundamental to the ecosystem management concept is an understanding that ecosystems are interdependent and problems are the result of several factors. Grumbine (1997) argues that because our knowledge of ecosystems is incomplete, ecosystems cannot be managed using centralized, long-term problem solving, and instead effective management requires an interdisciplinary, humble approach that encourages creativity and flexibility. Ecosystem management also recognizes that ecosystems do not follow political or cultural boundaries (Agee & Johnson, 1988). As a result, ecosystem management challenges natural resource managers to bring diverse interests together to collectively identify problems, acknowledge values as part of the management framework, and accommodate human use within the landscape.

Ecosystem management's incorporation of social factors emphasizes the role of private citizens. The success of ecosystem management is dependent, in part, on relinquishing centralized control and empowering citizens to have meaningful participation in management

decisions. Disempowering citizens can lead to lack of trust, poor communication, power struggles, and disengagement (Grumbine, 1994).

Social-Ecological System

Consistent with the concept of ecosystem management, there is now growing recognition amongst social scientists and conservationists that humans must be considered as part of nature rather than separate and managers of nature (Berkes, 2004). Going further, many social scientists and conservationists assert humans should also not be viewed merely as stressors. Instead, understanding and managing ecosystems requires considering the "social-ecological system" where humans are viewed as integrated into nature (Berkes, 2004; Berkes & Folke, 1998; Berkes, Folke, & Colding, 2003). This interaction between societies and natural systems operates differently at the nation-state scale than it does at the community scale. Furthermore, the community scale is complex and does not adhere to the idealized view of a community that is cohesive, uniform, and static. In addition, there is not just one community, but multiple actors. These actors have diverse interests that change over time based on the fluid nature of opportunities and circumstances (Agrawal & Gibson, 1999). As a result, understanding social-ecological interactions is important but requires research working at different temporal and spatial scales with different research methods to help build a holistic picture (Ostrom & Nagendra, 2006).

When viewed as a social-ecological system, conservation actions are most effective if implemented from the bottom up, starting at the community scale (Berkes, 2004). A bottom up approach is effective because long-term conservation objectives are more achievable with the cooperation of local citizens. In addition, involving local communities, including individual landholders, has the potential to improve conservation activities because local communities offer

local knowledge that can supplement scientific studies to provide a more complete understanding of an environmental issue (Berkes, 2004). Incorporating local landowners into the decision-making process also fosters a sense of shared ownership and responsibility for conservation actions through building relationships and empowering landowners (Berkes, 2004; Ostrom & Nagendra, 2006; Pretty & Ward, 2001; Raedeke et al., 2001; Wondolleck & Yaffee, 2000). Finally, decisions receive greater public acceptance when collaborative approaches are used to foster greater interaction between landowners and other decision-makers (Yaffee & Wondolleck, 2000).

Landowners have also been shown to be more likely to participate in conservation programs when they are more knowledgeable about ecological issues and feel they have greater efficacy (influence) over the program (Raedeke et al., 2001). Instead of the typical top-down approaches where decision-making authority rests at the organization, committee, or government level; a more effective means of building landowner participation is to move away from states and markets and instead give greater autonomy to local groups (Agrawal & Gibson, 1999) and involve landowners early in a conservation action so that they have the opportunity to help design and implement conservation programs (Raedeke et al., 2001). This shift toward local actors requires government to relinquish control over rules and outcomes (Agrawal & Gibson, 1999) and allow local actors to share power and responsibility (Berkes, 2004). Voluntary approaches have gained favor due to "(1) increasing land values and the high cost of government land management; (2) disenchantment with gridlocked public land-management and resource agencies; and (3) the insensitivity of centralized regulatory authority toward local communities" (Merenlender, Huntsinger, Guthey, & Fairfax, 2004, p. 66).

Ecological Importance of Private Land

In addition to ecosystem management and the social-ecological system, the third concept supporting private landholders' role in conservation is the recognition that conservation cannot be accomplished on public land or by public agencies alone. Instead, conservation requires extending efforts to private lands and; therefore, the participation of private landholders. The need to involve private land and private landholders is due in large part to the shortcomings of public land management, patterns of species distribution, and ineffective regulatory approaches.

The shortcomings of public land management include conflicting management goals within a single agency and differing goals between agencies. These shortcomings are better understood in the context of the historic practice of federal land retention in the late nineteenth century. Between the years of 1803 and 1867, the United States acquired 1.8 billion acres of land (Alexander & Gorte, 2007). Congress disposed 1.2 billion acres of this land to private and state ownership before shifting to federal management of federal lands with the Taylor Grazing Act of 1934. The United States eventually ended disposals in 1976 with the Federal Land Policy and Management Act that formally declared a national policy of retention.

Retention forms the basis of public lands in the United States and the foundation of a conservation strategy that focuses on public land. Although the shift to federal land retention has been described as a "golden era" of conservation, Raymond and Fairfax (1999) argue this shift does not symbolize a deep moral reconsideration and commitment to conservation but instead marks an era of policy fragmentation and conflicting goals and priorities for resource management. Resources were parceled out to different competing agencies with differing views and goals for their use and management. Because of this fragmentation in physical and policy landscapes, creating a more cohesive conservation strategy requires participation of multiple

entities, including private landholders. Examples are seen in hunting programs managed by the WDFW. The WDFW recognizes that more than half of Washington's landbase is in private ownership. They have reached out to private landowners to expand hunting opportunities in program such as "Feel Free to Hunt," "Register to Hunt," "Hunt by Reservation," and the " Waterfowl Quality Hunt Program."

Patterns of species distribution also suggests the need for involving private land and private landholders in conservation efforts. Of the species listed under ESA, the majority have at least 81 percent of their habitat on private land (Wilcove, Bean, Bonnie, & McMillan, 1996). Up to 50 percent of protected species do not occur on federal land. However, species on private land do not show as much improvement as species on public land and their status is less well known. The presence of species and habitats on private lands is not isolated to the United States. In South Africa, for example, 80% of the acreage of rare and vulnerable vegetation types are located on private agricultural land (Botha, 2001) As a result, conservation strategies must do more to incorporate private land.

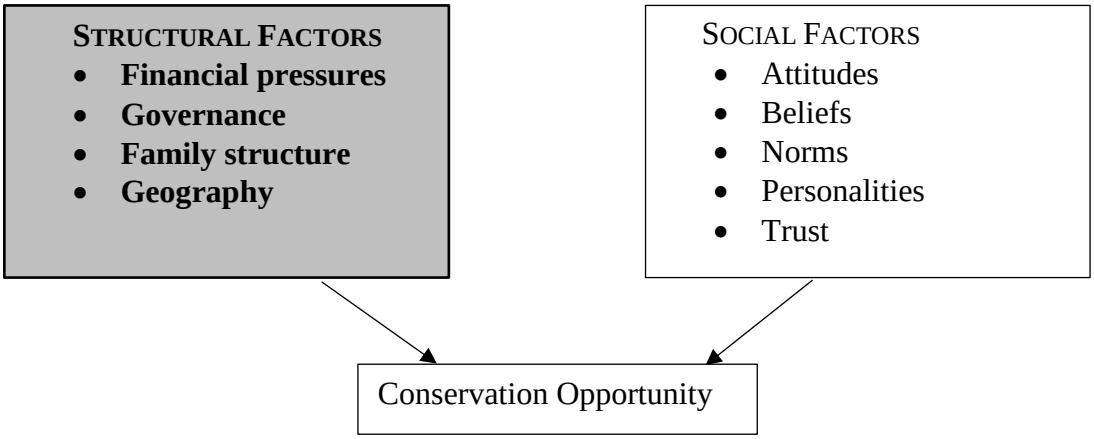
Factors that Influence Private Landholders

A landholder's decision to participate in conservation is motivated by a range of factors. At the core, a landholder's decision is based on whether the action helps achieve his or her goals (Pannell et al., 2006). Using a structurationist approach, the factors that influence this decision can be divided into structural and social factors (Battershill & Gilg, 1997; Newby et al., 1977). Descriptions of common structural and social factors are described below for context, but research shows that factors vary by local circumstances (Amsalu & de Graaff, 2007) and there are few if any universal factors that explain landholder participation (Knowler & Bradshaw, 2007; Lockeretz, 1990).

Structural Factors

Early work by Cox, Lowe, and Winter (1986) describe structural factors as a "complex multitude of interlocking formal and informal ties." Structural factors encompass many aspects of institutions and the family. Below is a description of four of the more common factors: financial pressures, governance, family structure, and geography (Figures 1.1 and 2.1).

Figure 2.1 Conceptual Framework: Structural Factors



Financial pressures have long been recognized as important in land management (Griliches, 1957, 1960; Havens & Rogers, 1961; Newby et al., 1977), yet debate remains about their relative importance and what constitutes the distinction between financial and social pressures (Pannell et al., 2006). Nevertheless, financial pressures play a role and can reduce a landholder's capacity to participate in voluntary actions (Defrancesco et al., 2007; Pannell et al., 2006; Wilkinson & Cary, 1997). Several studies demonstrate financial stress is greater in circumstances where landholders derive the majority of their income from the land (production landholders) (Moon & Cocklin, 2011; Newby et al., 1977; Winter, Prozesky, & Esler, 2007). Specifically, Winter et al. (2007) found the majority of production landholders cited lack of resources or equipment as barriers to conserving land on their property, with only 5% citing management-related barriers. While Winter et al. found most farmers were willing to conserve

land, few were willing to conserve land if it resulted in reduced income. Similarly, even though the vast majority of landholders felt it was their responsibility to protect biodiversity on their land, less than half were willing to bear the financial burden of doing so. This finding is in keeping with other studies linking action to financial considerations (Januchowski-Hartley, Moon, Stoeckl, & Gray, 2012; Kabii & Horwitz, 2006; Newby et al., 1977; Pannell, 2008; Wilkinson & Cary, 1997). In the words of Newby et al. (1977), environmental degradation "has occurred as a result of economic constraints on farming practice rather than as a result of a variation in values held by the farmers themselves."

Financial pressures are related to the concept of "net private benefit". Net private benefit can be defined as the benefit to the landholder of a land management action minus the costs of implementing the action (Pannell et al., 2006). A landholder's willingness to participate in a conservation action is largely driven by whether the action results in a net private benefit to the landholder (Januchowski-Hartley et al., 2012; Pannell, 2008). Net private benefits may be more influential than whether the action provides a net public benefit. However, although private benefits include financial benefits such as increased crop yield and cash, they also include non-financial benefits such as "sense of stewardship and improved landscape aesthetics" (Januchowski-Hartley et al., 2012) and "personal satisfaction from the resulting environmental benefits" (Pannell, 2008) (social factors). This may partially explain why economic considerations do not always predict landholder behavior. When exploring the role of economic constraints, Battershill (Battershill & Gilg, 1997) did not find a pattern between economic hardship and type of environmental activity. Moon et al. (2012) also did not fine a pattern between production and conservation choice.

Another reason why financial considerations may not consistently predict landholder decisions is that the perception of conservation being a financial burden may be more related to a productive mind-set and level of stress rather than whether or not the landholder is experiencing financial hardship. In actuality, production landholders can be more successful than non-production landholders in obtaining sufficient income to support their family (Moon & Cocklin, 2011). Even so, they may be more sensitive to financial burdens due to greater financial uncertainty. Productive landholders have more difficulty repaying loans and are subject to changes in production costs (Moon & Cocklin, 2011). Productive landholders also work longer hours and view living on the land as more stressful than non-productive landholders (Moon & Cocklin, 2011). Similarly, Defrancesco et al. (2007) found reduced participation with increased hours worked, increased financial dependence on land production, and more investment-oriented farming activities. These last results suggest that perhaps conservation opportunity is more related to economic dependence and mindset, rather than economic hardship. Lack of time may also play a role, especially for those who spend substantial time working the land (Moon et al., 2012). As a result, these landholders may not believe they have the time to engage in conservation actions (Moon et al., 2012).

In addition, production landholders view conservation as a burden in part because they view land in financial terms. Excess land is a type of insurance and giving up land for conservation is seen as a financial risk because it reduces their flexibility in managing unforeseen impacts such as drought or economic recession (Winter et al., 2007). In the words of one landholder, " 'land is money,'…therefore it is difficult to 'give up' land for conservation." (Winter et al., 2007, p. 54). Consequently, compared to non-productive landholders, productive landholders are willing to conserve a smaller percentage of their property (Moon & Cocklin,

2011) and willingness increases on larger farms with greater excess property (Winter et al., 2007). The role of farm size can be better understood when viewed together with the financial burdens of a large family or debt (Battershill & Gilg, 1997). These findings are consistent with reasons provided by Oregon riparian landholders who cited decreased flexibility to adapt land use with economic conditions as a barrier to participating in the conservation reserve enhancement program (CREP) (Kingsbury & Boggess, 1999). Therefore, programs may be more successful with production-based landowners if they focus on benefits for the landholder, including improving their personal financial circumstances (Januchowski-Hartley et al., 2012; Moon & Cocklin, 2011; Moon et al., 2012). Because these landowners rely on maximizing their profits through their land use practices, incentives offer one way to reduce risk and personal sacrifice (Januchowski-Hartley et al., 2012; Moon & Cocklin, 2011; Moon et al., 2012).

Several existing government programs in the Pacific Northwest explicitly address financial pressures. The US Department of Agriculture (USDA) Farm Service Agency offers financial incentives to landowners for on-the-ground riparian improvements through the Conservation Reserve Enhancement Program (CREP) program. Many local agencies also offer financial compensation to purchase unused development rights in Purchase of Development Rights (PDR) programs. The WDFW also offers landholders funds or physical property improvements in exchange for public hunting access in their Waterfowl Quality Hunt Program.

The second structural factor, governance, also influences landholder participation through policies and procedures. The way a program is structured establishes the degree to which a landholder can participate in decisions (Pannell et al., 2006; Raedeke et al., 2001). Individuals are less likely to participate in a program if they feel it is impractical (Januchowski-Hartley et al., 2012), but are more likely to participate in the programs if they perceive they have opportunities

to influence its design and implementation (Pannell et al., 2006; Raedeke et al., 2001). This empowerment may be even more influential than a landholder's economic circumstances (Raedeke et al., 2001). Empowering landholders; however, can be a challenge, especially when traditional conservation programs use a top-down decision-making processes. It is not sufficient for landholders to have a control in name only, they must have a stake in the ultimate decisions. Raedeke et al. (2001) found steering committee membership in a Missouri cost-share program did not provide citizens with enough flexibility to adapt the program to local circumstances and culture. This is largely because the steering committee's responsibilities were limited to making decisions from a pre-determined menu of options. Instead, the program could have improved perceived efficacy if landholders were included early in program design and selection to facilitate compatibility with local needs and expectations. Early landholder participation also has the potential to increase conservation opportunity because it illuminates differences between program goals and landholder goals and minimizes the potential of program representatives to minimize or misunderstand landholder positions (Pannell et al., 2006).

Programs that include landholders early in the process can also improve understanding of the program, another common barrier to participation (Pannell et al., 2006; Raedeke et al., 2001). By understanding a program, a landholder can determine whether they believe the program is effective (Raedeke et al., 2001) and whether it helps them achieve their goals (Pannell et al., 2006). Understanding a program is a learning process and somewhat unique to an individuals' own circumstances, yet the literature shows the opportunity to trial a program is especially important in this process (Pannell et al., 2006). By building understanding, increasing landholder influence, and improving alignment with landholder goals, programs that give landholders' control through objectives, methods, and evaluation procedures have the potential to build trust,

another barrier to participation (Kahan & Braman, 2006; Moon et al., 2012; Pannell et al., 2006; Raedeke et al., 2001). Trust is described in more detail under Social Factors and The Constructs of Trust, below.

Family structure is the third structural factor influencing conservation opportunity for private landholders. Family structure includes marital status, number of children, and succession. Family structure can influence a landowner's willingness to participate in a conservation action when the conservation action affects marital relationships, such as improving or disrupting evening rituals between husbands and wives (Pannell et al., 2006). The influence of children is debated (Battershill & Gilg, 1997). This may be due to fluctuations in family demands. A landholder may be receptive to a conservation action at one time but if family or personal circumstances shift and become more urgent, they may no longer feel they have the time or energy to consider a new practice (Pannell et al., 2006).

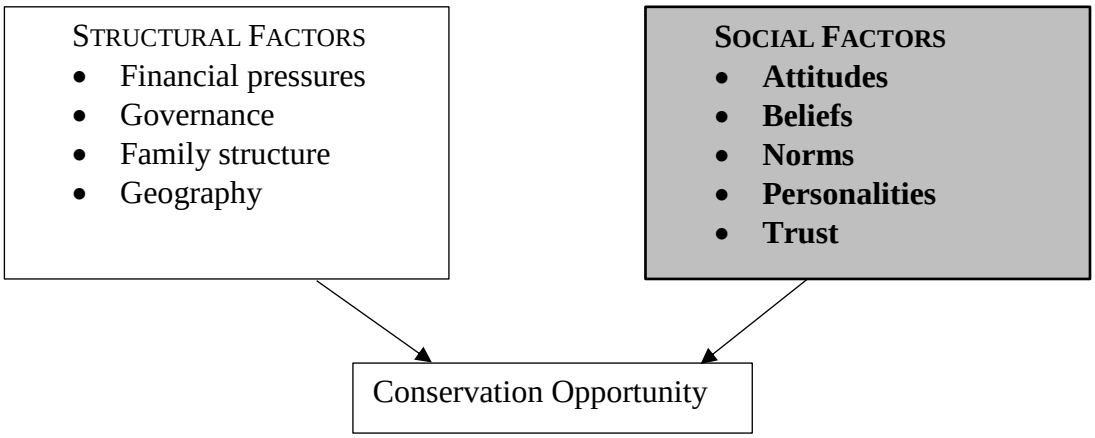
Similar to children, the influences of age and succession are also debated. Contrary to expectations, landholders over the age of 50 and facing a succession of the farm to a child do not necessarily intensify farming activity or investment in anticipation of the transfer (Battershill & Gilg, 1997). Instead, younger, market-oriented landholders may be more willing to invest in the long-term future of the farm (Defrancesco et al., 2007). Both of these examples highlight how age or status of succession may not be as important as the social factor of landholder attitudes (Battershill & Gilg, 1997). Raedeke et al. (2001) found participants in cost-share programs were younger (average age slightly over 55), yet they were also likely to perceive their actions as impacting the environment, a factor with much more predictive power. Some conclude that although family structure is often characterized as a structural factor, it is an integral and inseparable part of the family dynamics; therefore, can be viewed it as a social factor.

The fourth structural factor often cited in the literature is geography. Geography encompasses issues such as parcel (land) size and location. Land size has often been studied as an indicator, with mixed results. Moon et al (2011) found productive landholders had larger parcels and contributed a smaller percentage of their land to conservation programs. Nevertheless, because they had larger parcels compared to non-productive landholders, the productive landholders contributed a larger number of total acres. Winter et al. (2007) found productive landholders were more likely to participate on larger farms with greater excess property. The driving factor in both studies was financial considerations rather than just acreage.

Social Factors

Understanding and addressing social factors are necessary for the long-term sustainability and equitability of environmental change (Pretty & Ward, 2001). Despite the acknowledged importance of social factors in conservation opportunity, social factors are poorly understood (Battershill & Gilg, 1997; Januchowski-Hartley et al., 2012; Winter et al., 2007). Research that does exist describes a range of overlapping social factors that can be categorized as attitudes, beliefs, norms, personalities, and trust (Battershill & Gilg, 1997; Defrancesco et al., 2007) (Figures 1.1 and 2.2). Each of these factors is described below.

Figure 2.2 Conceptual Framework: Social Factors



Attitude can be defined as "a psychological tendency" where an individual evaluates something as favored or disfavored (Eagly & Chaiken, 1993). Research shows landholders with strong pro-environmental attitudes are more likely to participate in voluntary actions (Kabii & Horwitz, 2006). However, attitudes related to conservation consists of both (1) willingness to conserve and (2) perceived value of retaining natural habitats (Winter, Esler, & Kidd, 2005). Most landholders have positive attitudes toward conservation and are willing to conserve, regardless of whether they are productive landholders (Moon & Cocklin, 2011; Winter et al., 2007) or whether they are experiencing economic hardship (Battershill & Gilg, 1997). However, productive and non-productive landholders show differences in the strength of their attitudes, with attitudes being stronger and more proenvironmental in non-productive landholders (Moon & Cocklin, 2011). In addition, productive landholders differ from non-productive landholders in the type of land they are willing to conserve. Productive landholders are less willing to conserve land that can be used for production, in part because they view unproductive land as "bad" or "wasteland" (Winter et al., 2007). Wilkinson and Cary (1997) also remind us that willingness to conserve does not necessarily translate into action. Instead, their research suggests "pro-environmental attitudes will not translate into pro-environmental behavior unless there are economic or other benefits associated with the behavior" (see Structural Factors, above).

Attitudes include perceptions about the value of farming. A landholder is less likely to participate in a conservation program if they perceive it conflicts with farming. For example, one common barrier to participation is when a landholder believes the program emphasizes ecological outcomes over productive outcomes (Januchowski-Hartley et al., 2012). One study shows farmers did not value a particular natural landscape because it was in direct conflict with the act of farming. In this case, the native indigenous plant associated with the natural landscape

had low grazing value and presented costly management challenges by encroaching on planted fields (Winter et al., 2007).

A landholder's attitude toward farming and conservation is closely associated with their identity as a farmer (Raedeke et al., 2001). Farmers; however, do not conform to a uniform identity and therefore must be viewed as a diverse set of individuals with differing views on the relative importance of lifestyle and profitability (Newby et al., 1977). A study set in rural East England shows both traditional "gentleman farmers" and "family farmers" are more receptive to environmental conservation than "agri-businessmen" (Newby et al., 1977). Newby et al. (1977) found this difference is due to differences in "market orientation" rather than their direct involvement with production. Gentleman farmers and family farmers both have low market orientation. Gentlemen farmers spend little time working on the land and can afford to ignore economic constraints. They are more concerned with upholding a lifestyle than maximizing profits. Family farmers spend substantial time working on the land and are more concerned with equitable profitability and reduced risk of losing their land than maximizing profits. In contrast, agri-businessmen are individuals or companies focused on maximizing profits and value administrative skills over cultural aspects such as husbandry. When a landholder culturally identifies with the farming lifestyle, the identification may even be more important that structural factors (Raedeke et al., 2001). Further, farming identity, as measured by the percentage of life farmed, predicted landholder willingness to participate in cost-share programs while other farm structural variables such as age, education, cattle owned, farm acreage, program knowledge, and program efficacy did not.

Landowner willingness to participate is also rooted in their attitude toward personal responsibility. Many landholders feel they need to prevent harm that emanates from their land

use choices (Januchowski-Hartley et al., 2012). This finding is further supported by Raedeke et al. (2001) who showed a landholder's interest in cost-shares was related to their perception of personal impacts on the ecosystem rather than the health of the ecosystem itself. Personal responsibility for protecting the environment is a commonly held attitude. Both productive and non-productive landholders share this attitude, although the strength of the obligation is greater in non-productive landholders (Moon & Cocklin, 2011).

Attitudes about personal responsibility; however, changes with age. As mentioned above under family structure, younger landholders are more likely to perceive personal impacts on the ecosystem. Personal responsibility may also explain why Januchowski found that when landholders were surveyed about the anticipated private benefits of different conservation actions, "sense of stewardship and improved landscape aesthetics" was the most commonly cited benefit for six of the seven actions (Januchowski-Hartley et al., 2012).

Beliefs can also influence landholder participation in conservation efforts. Unlike attitudes, beliefs are not a personal judgement about whether something is favorable or disfavorable, but rather whether something is true. Research shows lower participation rates often exist where landholders do not believe there is an environmental problem that warrants action. Moon et al. (2012) reviewed participation in biodiversity conservation programs in north Queensland, Australia and found non-participants were more likely then participants to disagree with the statement that humankind is facing an "eco-crisis" (Moon et al., 2012). Similarly, in South Africa, low levels of conservation participation existed where landowners had a low level of awareness about the endangered renosterveld habitat. However, the association between awareness and conservation opportunity may not indicate causation (Amsalu & de Graaff, 2007; Knowler & Bradshaw, 2007).

The failure of awareness to consistently predict conservation opportunity may be the result of cultural context (Kahan, 2012; Kahan & Braman, 2006; Knowler & Bradshaw, 2007). Because culture defines an individual's worldview, their belief or disbelief in empirical claims is determined by their "cultural cognition." Cultural cognition is the set of processes by which an individual frames their factual beliefs based on their cultural commitments and view of a "good society." Kahan (2012) describes worldviews on two scales (egalitarian/hierarchical and individualist/solidaristic), and has shown these scales to predict an individual's belief about the seriousness of environmental risks (Kahan & Braman, 2006). Based in large part on the work of Douglas and Wildavsky (1982), worldview scales can predict opinions on environmental issues, crime control issues, and economic regulatory issues.

Norms influence landholder participation as well. Cultural norms have to do with social pressures to conform. When a landholder decides to participate in an action, they face potential social stigmas from their neighbors or community. As a result, the landholder scrutinizes the action's compatibility with their land use practices, self-image, and brand loyalty (Pannell et al., 2006). While participants are concerned about the opinions of society as a whole, they are more concerned about the opinions of their neighbors (Defrancesco et al., 2007), and this is especially true with productive landholders (Moon & Cocklin, 2011). This productive or farming norm helps explain Raedeke et al.'s (2001) findings that willingness is greater with landholders who spent less of their life farming. However, not all landholders share norms with their neighbors and therefore the influence of neighbors may vary based on local circumstances (Battershill & Gilg, 1997).

Personality is another social factor that influences conservation opportunity. Although personality has not been as widely studied as some of the other social factors due to challenges in

measuring personality, Pannell et al. (2006) provides a literature review and describes three personality-related issues: introversion, risk aversion, and control. First, conservation commonly takes place in rural landscapes, and those who live in rural landscapes are often introverts (Pannell et al., 2006). Shrapnel and Davie (2001) found graziers in Queensland generally fell within a subset of five potential personality styles. In contrast to more urban citizens, they disliked group settings and tended toward introversion. Instead, productive landholders prefer one-on-one relationships (Shrapnel & Davie, 2001) and personal networks become increasingly important in adoption (Pannell et al., 2006). A second personality trait is risk aversion, or an individuals' willingness to take or avoid risk. Risk aversion varies widely among landholders, but the more risk averse they are, the more likely they are to adopt practices they perceive will reduce risk and the less likely they are to adopt a practices they perceive will increase risk (Pannell et al., 2006). Finally, "locus of control" is a personality trait that is important in landholder's decision-making. Those who are confident in their ability to exert influence over the events in their life have an "internal locus of control" and are less prone to stress during decision-making (Pannell et al., 2006). As described above under Structural Factors, above, stress can negatively impact conservation opportunity. Individuals who have a lower "internal locus of control" may be more prone to feeling a lack of control and might explain one landholder's view that accepting an incentive for conserving property results in a change of power where the "agreeing party becomes the boss, and you are no longer about to make decisions at your own discretion" (Winter et al., 2007, p. 55).

Finally, researchers describe trust as another social factor that influences conservation opportunity on private land (Moon et al., 2012; Pannell et al., 2006). Trust; however, is not easily

separated from other social and structural factors. Instead, in this study, trust is recognized as influenced by and having influence over other factors.

While trust may always play a role in determining conservation opportunity, it is especially important at the early stages of learning before an individual has the opportunity to trial a practice for him or herself (Pannell et al., 2006). It is also important with complex decisions when an individual is incapable of trailing or personally investigating all the factors involved; therefore, must "take the word of those they trust on what sorts of empirical claims, and what sorts of data supporting such claims, are credible" (Kahan & Braman, 2006, p. 151).

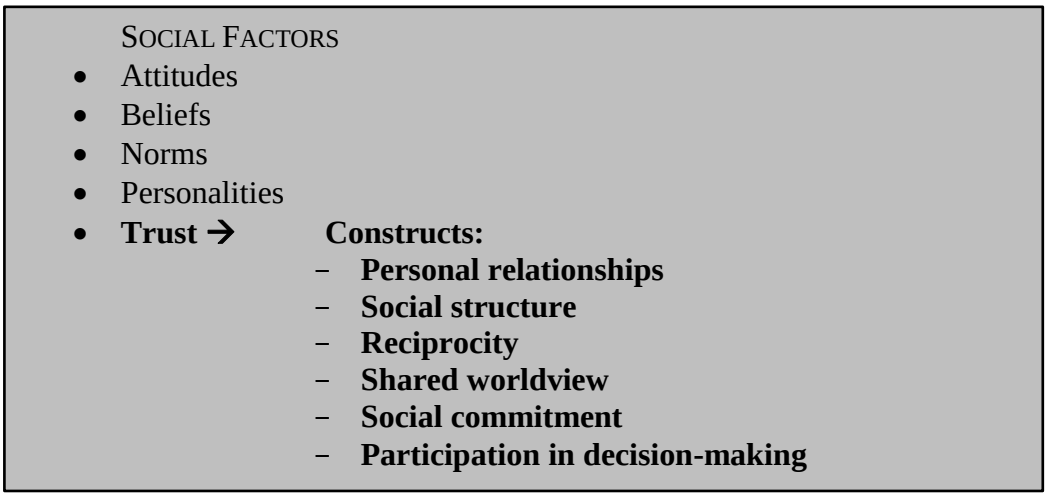
The presence or absence of trust can have wide-reaching influence, including influencing a landholders' willingness to consume information (Kahan & Braman, 2006; Moon et al., 2012; Pannell et al., 2006), evaluate new technologies or techniques (Pannell et al., 2006), and engage in actions (Pannell et al., 2006; Raedeke et al., 2001). At a societal level, increased trust is one component in the evolution of social capital that builds independent, stronger, more resilient groups that are more likely to advance ecological goals and adopt new practices (Pretty & Ward, 2001). Trust is a component of social capital that "reduces transaction costs between people, and so liberates resources" (Pretty & Ward, 2001, p. 211). Trust; however, is difficult to build and easy to lose. Trust is earned slowly over time through repeated positive interactions but can be eroded quickly if an individual perceives an entity or action is in conflict with their goals or local circumstances (Pannell et al., 2006). The constructs of trust and how they relate to other structural and social factors, is discussed in more detail in the following section.

The Constructs of Trust

As mentioned in the Introduction, for the purposes of this research, trust is defined as a belief that someone or something is good, reliable, honest, and effective (Merriam-Webster.com). Trust is thus a broad concept and its treatment under conservation research is understandably diverse. One unifying concept is that trust is strongly associated with the degree to which an individual, institution, or program respects and understands the landholder's goals (Pannell et al., 2006). Goals can broadly be categorized as material wealth and financial security, environmental protection and enhancement, social approval and acceptance, personal integrity and high ethical standards, and balance of work and lifestyle (Pannell et al., 2006). The degree to which an individual, institution or program respects and understands these goals is built through various means, these means are identified in this study as the constructs of trust.

This research uses existing literature to identify six constructs of trust: Personal Relationships, Social Structure, Reciprocity, Shared Worldview, Social Commitment, and Participation in Decision-Making. The six constructs of trust are described below and shown in Figure 2.3.

Figure 2.3 Constructs of Trust



Personal Relationships

Personal relationships enhance trust in individuals whom we know (Pretty & Ward, 2001). Trust is built through respectful interactions that demonstrate understanding of landholder goals (Marshall, 2004; Pannell et al., 2006). Because decision-making is a social process, landholders rely on others they trust to help formulate opinions, especially with new or innovative practices (Pannell et al., 2006). Making risky decisions can be stressful, and most individuals turn to their social and/or family networks for information and support (Pannell et al., 2006). The more difficult the decision, the more frequently an individual confers with friends, family, and others in their social network (Pannell et al., 2006).

Neighbors might be viewed as an example of a personal relationship. However, the disparities discussed under Social Factors above, suggests conflicting results related to trust. Moon et al. found landholders in Queensland, Australia believed neighbors to be a source of trusted information, regardless of the landholders' views on conservation programs (Moon et al., 2012). Defrancesco et al. (2007) also found landholders cared more about the opinions of their neighbors than society in general; however, the study did not specifically examine whether this was related to trust. In contrast, Moon and Cocklin (2011) found that only one-third of production landholders and just over half of non-production landholders cared about the opinions of their neighbors when making decisions about enrolling in a conservation program. Differences in neighbor influence may be because neighbors do not always share cultural norms or values. Battershill and Gilg (1997) did not find neighbors to be an important influence on attitudes amongst farmers in Southwest England, likely due to a lack of cohesive environmental culture.

Social Structure

Social structure enhances trust in individuals whom we do not know (Pretty & Ward, 2001). Trust based on social structure is derived from (1) group connections and (2) affiliation with respected institutions (Pretty & Ward, 2001). First, group connections can increase trust and thus social capital. Groups can include local groups such as guilds, sports clubs, and parenting groups, and societies but also includes regional and national groups. Groups connect in different ways, and in general, more connections builds greater social capital, including both horizontal connections between different sectors as well as vertical connections within a sector (Pretty & Ward, 2001). In addition, Pretty and Ward (2001) argue two-way relationships are stronger than one-way and regularly updated connections are stronger than historic connections.

A second form of building trust through social structure is perception of authority or expertise based on an affiliation with a respected institution. Education and science are not inherently viewed as legitimate or credible; therefore, an individual will seek to counter their own knowledge gaps by seeking information from those they view as experts, including company representatives, agents, consultants, or researchers (Pannell et al., 2006). The tendency to trust those in recognized positions of expertise is supported by Moon et al.'s (2012) results that show both participants and non-participants in conservation programs in Queensland, Australia had high levels of trust for landholders they viewed were successful land managers and industry representatives. Perhaps one reason why experts engender trust is that they are assumed or known to have a history of providing valuable advice, arguably the most important source of credibility (Pannell et al., 2006). The degree of perceived expertise is influenced by beliefs (see Social Factors, above). For example, perceived expertise is influenced by the extent of a shared

worldview (Kahan & Braman, 2006) where social structure serves as one indicator of a shared worldview.

Government is one type of social structure that is commonly associated with a lack of trust (Januchowski-Hartley et al., 2012; Moon et al., 2012; Pannell et al., 2006). Januchowski-Hartley et al. (2012) found government mistrust as one of four major barriers to landholder participation in riverine restoration actions. The reason behind the lack of trust may be partially explained by a shift in government practices over the past several decades away from supporting landholders in achieving their goals in favor of encouraging and emphasizing actions for the public good (Pannell et al., 2006). In support of this assertion, Moon et al. (2012) found the majority of landholders surveyed did not believe the government values the opinions of the landholder. In a different study, one landholder declined to participate in a conservation program due to uncooperative authorities in their pursuit to "achieve 'their goals on my land" (Winter et al., 2007, p. 55).

Conservation opportunity may increase if programs emphasize benefits to the landholder rather than to the public (Januchowski-Hartley et al., 2012) and increased landholder involvement in program development and implementation (Raedeke et al., 2001). This line of reasoning suggests government as a social structure may not always be associated with a lack of trust, but instead trust may shift depending on how government practices are implemented. It is also worth noting that some individuals participate with an agency despite a lack of trust, reinforcing the understanding that government affiliation specifically, and potentially trust in general, are not the only factors in adoption (Moon et al., 2012).

Reciprocity

Reciprocity is an important component of trust (Pannell et al., 2006; Pretty & Ward, 2001). Trust affects whether an individual is willing to initiate cooperation in the expectation that it will be reciprocated (Ostrom, 1998). Trust, reciprocity, and a reputation for being trustworthy are also positively reinforcing.

Reciprocity contributes to long-term obligations between individuals through both (1) equal, simultaneous exchanges and (2) dispersed exchanges that result in a balance over time (Pretty & Ward, 2001). As described by Pretty and Ward (2001) "…reciprocity increases connectedness between people, leading to greater trust, confidence and capacity to innovate" (p. 214). Reciprocity also leads to greater capacity to enforce. For example, Marshall (2004) found when an agency is responsive to landholder needs, a landholder feels more ownership over the agency program and is more inclined to take actions against other landholders to help enforce it. Reciprocity in the form of a history of valuable advice that furthers landholder goals is also the greatest source of credibility, and thus trust (Pannell et al., 2006). Just as reciprocity can increase trust, a lack of reciprocity can reduce trust (Ostrom, 1998). When landholders do not believe that others will reciprocate, this shows a lack of trust and they are less likely to adopt measures that have spillover benefits because of the perception that others get a "free ride" (Marshall, 2004).

Shared Worldview

Individuals trust those that share their worldview (Kahan & Braman, 2006) (see Social Factors above for a description of worldview). Worldview influences trust by signifying similarity to the landholder (Pannell et al., 2006) and commonly accepted rules, norms, and sanctions (Pretty & Ward, 2001). Because individuals trust those with a shared worldview, they

tend to rely on information from those with similar worldviews to make decisions on complex and conflicting environmental issues (Kahan & Braman, 2006). Moon et al. (2012) found those who chose not to participate in conservation programs were significantly less likely to trust government than those who chose to participate, indicating trust in government influenced their decision and may represent a form of "bonding social capital" that discourages participation due to a shared sense of place and norms. Similarly, Kahan (2012) shows how reliance on a shared worldview leads to group polarization and "biased assimilation" where individuals unconsciously tend to reinforce and become hardened in their beliefs, especially when faced with information that challenge their position. This tendency includes the failure of expert scientific information to sway individuals not because of a lack of trust in experts, but due to differing perceptions on what experts believe (Kahan et al., 2011).

Social Commitment

Social commitment can also increase trust. Social commitment refers to the landholder's expectation that a conservation program or partner will be available and responsive for the long-term (Pannell et al., 2006). Social commitment is especially important after initial adoption, when long-term sustainability of an action requires support and encouragement to overcome obstacles and sustain commitment (Pannell et al., 2006).

Participation in Decision-Making

Finally, trust is built in part through landholder participation in the decision-making process. Involving landholders early in the decision-making process can build trust in an organization's motives and increase the likelihood they will participate (Raedeke et al., 2001). Landholder participation also builds the landholder's understanding of the program and their

ownership over the results, thus increasing trust (Pannell et al., 2006). Finally, empowering landholders in the decision-making process helps incorporate local knowledge into the program to better ensure compatibility with land use practices, consistency with landholder experiences, and accurate reflection of their goals (Pannell et al., 2006). Empowering landholders can be achieved through bottom-up processes early in program development (Raedeke et al., 2001) as described above under Structural Factors, Governance. It is also important to include the opportunity for landholder modification in the later stages of implementation (Pannell et al., 2006).

Chapter 3. Methods

The researcher answered the research questions using qualitative and quantitative data gathered from a self-administered survey. Past conservation research has shown interviewing and surveying landholders to be an effective way of obtaining qualitative and quantitative information about landholder decision-making (Januchowski-Hartley et al., 2012; Moon et al., 2012; Pannell, 2008; Rilla, 2002; Rode, Gómez-Baggethun, & Krause, 2015). While interviews allow for more in-depth answers, self-administered surveys require less time and therefore allow for a larger sample size. Self-administered surveys also allow a survey respondent to remain anonymous and avoid the potential for interviewer bias (Dillman, Smyth, & Christian, 2014). In addition, self-administered surveys are suitable when the survey involves a battery of similar questions.

A survey instrument was chosen for this study due to the limited time available, the assumed importance of anonymity, and the similarity in question types. The survey needed to be completed within a two month period to meet the graduate school timeline and avoid the end-of-year holidays when many respondents would be unavailable. Anonymity was assumed to be important, and the responses were assumed to have the potential to be affected by interviewer bias (Dillman et al., 2014) because survey questions related to opinions about specific individuals in a small community where the researcher, conservation organization staff, and landholder may all know each other. In addition, the majority of questions involve the same format, which can be easily repeated as a battery of questions in a written survey. Finally, each question has numerous answer categories, a question type that is easier to understand and answer when presented visually (Fowler, 1988).

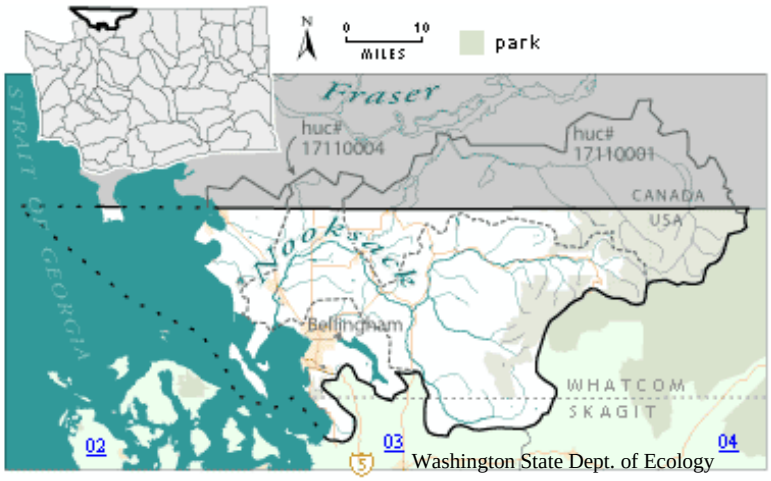
Self-administered surveys are known to have nonresponse biased toward education and interest (Fowler, 1988). However, these biases were not expected to be as problematic for the target population as for many studies because the target population was generally literate and expected to be motivated by the topic (Fowler, 1988). Motivation was expected to be moderately high since the landholder had previously considered enrolling in the applicable conservation program.

The survey was administered to landholders who were participants and non-participants in four rural conservation programs in the Nooksack Watershed. Landholder is defined as a private owner or private lease-holder who made the initial decision to participate, not a landholder who inherited the project. Participation means substantive commitment to the program either by signing an agreement, receiving money, or start of on-the-ground activities. Non-participants are landholders who were offered the opportunity but declined to participate. The following sections provide a description of the conservation programs, the survey design, and survey administration.

Conservation Programs

Four conservation programs are selected for this research. All programs are voluntary and are focused on conservation actions within the Nooksack Watershed in Whatcom County, Washington (Figure 3.1).

Figure 3.1 Nooksack Watershed



The four programs use conservation easements, on-the-ground restoration, or a combination of both. Each program is administered by a different organization that vary by organization type and funding (Table 3.1).

Table 3.1 Organizations and Programs

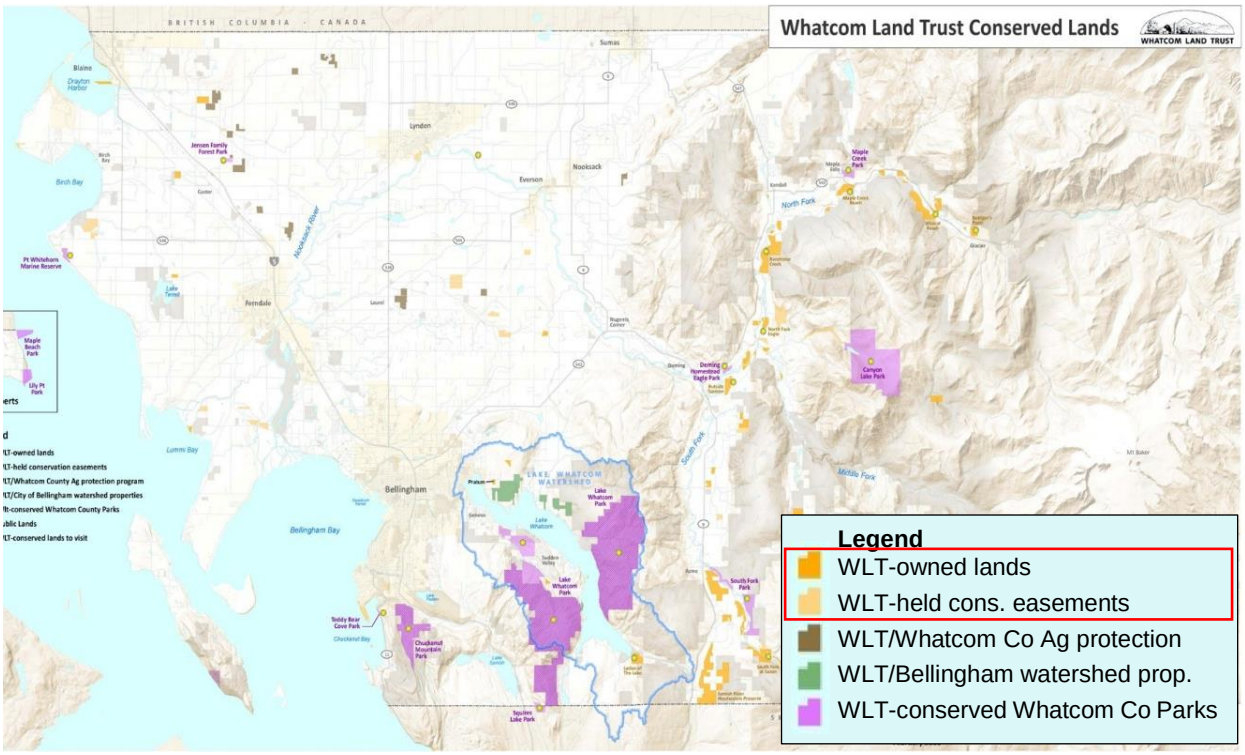
Organization Name	Program
Whatcom Land Trust	WLT owned and held easements and donations
Nooksack Salmon Enhancement Assoc.	Stream Restoration
Whatcom Conservation District	Conservation Reserve Enhancement Program (CREP)
Whatcom County	Purchase of Development Rights (PDR)

Whatcom Land Trust: Conservation Easements and Donations

The Whatcom Land Trust (WLT) is a private non-profit organization with a mission to "preserve and protect wildlife habitat, scenic, agricultural and open space lands in Whatcom County for future generations by securing interests in land and promoting land stewardship." The organization formed in 1984 in part to protect Whatcom County's agricultural heritage. All protection efforts are accomplished through voluntary actions, not regulations, and are funded with private donations and grant funds. Operations are led by an Executive Director and seven

staff members with guidance provided by an 11-member Board of Directors. To date, the WLT has protected over 20,000 acres of land (Figure 3.2)

Figure 3.2 Whatcom Land Trust Protected Properties



All properties with conservation value in Whatcom County are eligible for protection. The WLT utilizes a variety of tools, including conservation easements, multi-agency collaborations, grant-based acquisitions, and property donations. The WLT staff work with landholders to determine what tool will best meet the landholder's goals. The only tools included in this research are WLT-held and owned conservation easements and property donations. Conservation easements are a voluntary agreement between the landholder and WLT or another organization to donate specific property rights for the protection of conservation values. The conservation easement is a permanent restriction and applies to all future owners. When a landholder establishes the conservation easement, they retain land ownership over the conserved

area and are not required to provide public access. In the case of donations, land ownership is transferred to the WLT. With both conservation easements and donations, a landholder may receive tax benefits.

Nooksack Salmon Enhancement Association: Stream Restoration

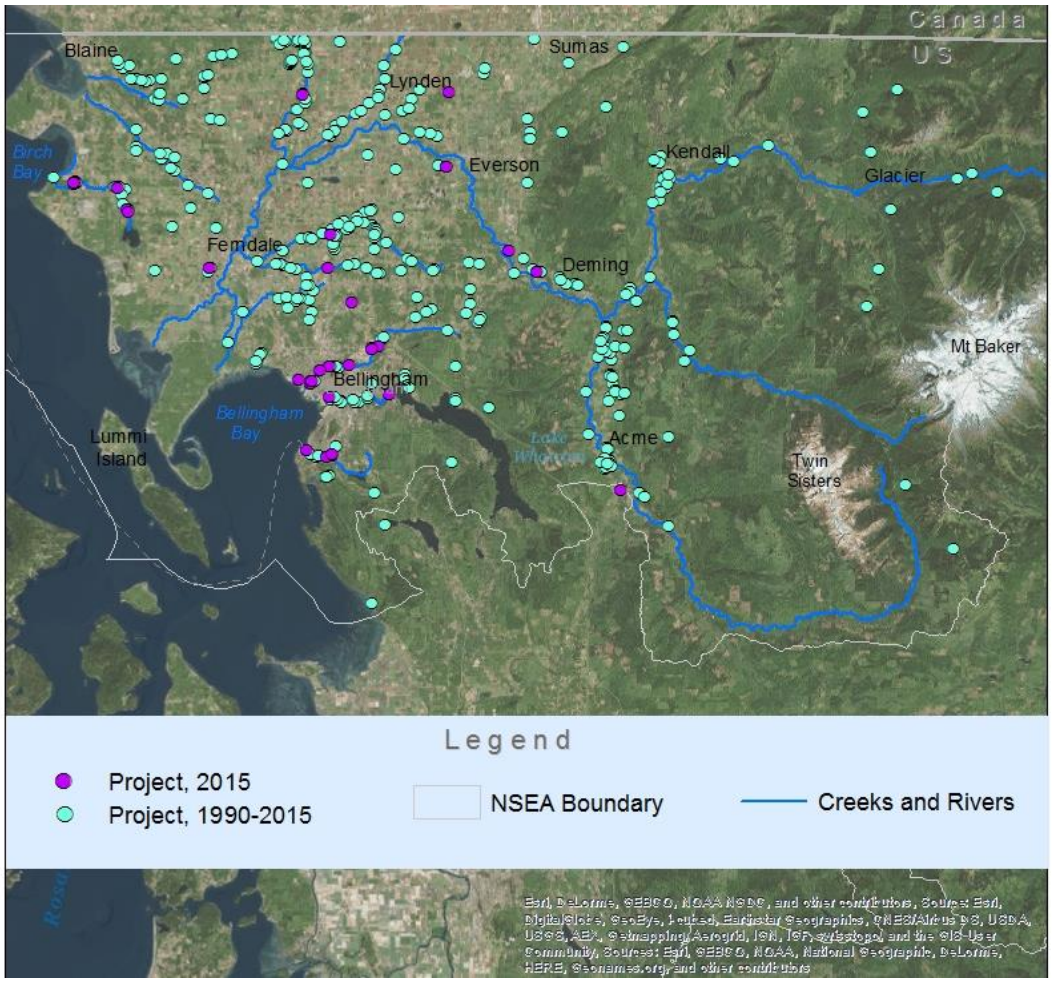
The Nooksack Salmon Enhancement Association (NSEA) is a private non-profit organization with a mission to "recover salmon by engaging our community in restoration, education and stewardship." The organization incorporated as a non-profit in 1991 to reverse the decline in salmon runs in Whatcom County. NSEA is one of 14 Regional Fisheries Enhancement Groups, a statewide program created by the Washington State Legislature in 1990 to integrate local communities, citizens, and landholders in salmon recovery efforts. Each RFEG operates within a specific geographic region. The NSEA works within the Nooksack Watershed (Water Resource Inventory Area [WRIA] 1), generally encompassing the western 2/3 of Whatcom County.

Similar to the WLT, all restoration efforts are accomplished through voluntary actions, not regulations, and are primarily funded with private donations and state and federal grant funds. The organization is run by an Executive Director, seven permanent staff, four AmeriCorps members, a Washington Conservation Corps crew, and two interns. The organization is governed by an 18-member Board of Directors.

While NSEA has a diverse set of programs, the program included in this research is stream restoration. Stream restoration includes fish passage improvements (i.e. replacing constricted culverts with bridges) and stream improvements (native buffer plantings, stream bed enhancement, and bank stabilization). All properties in the Nooksack Watershed with projects that aid in salmon recovery are potentially eligible for NSEA-assisted stream restoration work.

Restoration is voluntary and NSEA works with the landholder to obtain permission to conduct the work. Projects are funded by NSEA, generally through grants or private donations, with landholders occasionally providing supplemental funds. The landholder is not required to record a conservation easement to protect the project. No payment is given to the landholder for the restoration work or loss of productive land. Between 1991 and 2015, NSEA completed 400 restoration projects and removed more than 70 fish passage barriers throughout the Nooksack Watershed (Figure 3.3).

Figure 3.3 NSEA Restoration Projects



Whatcom Conservation District Conservation Reserve Enhancement Program

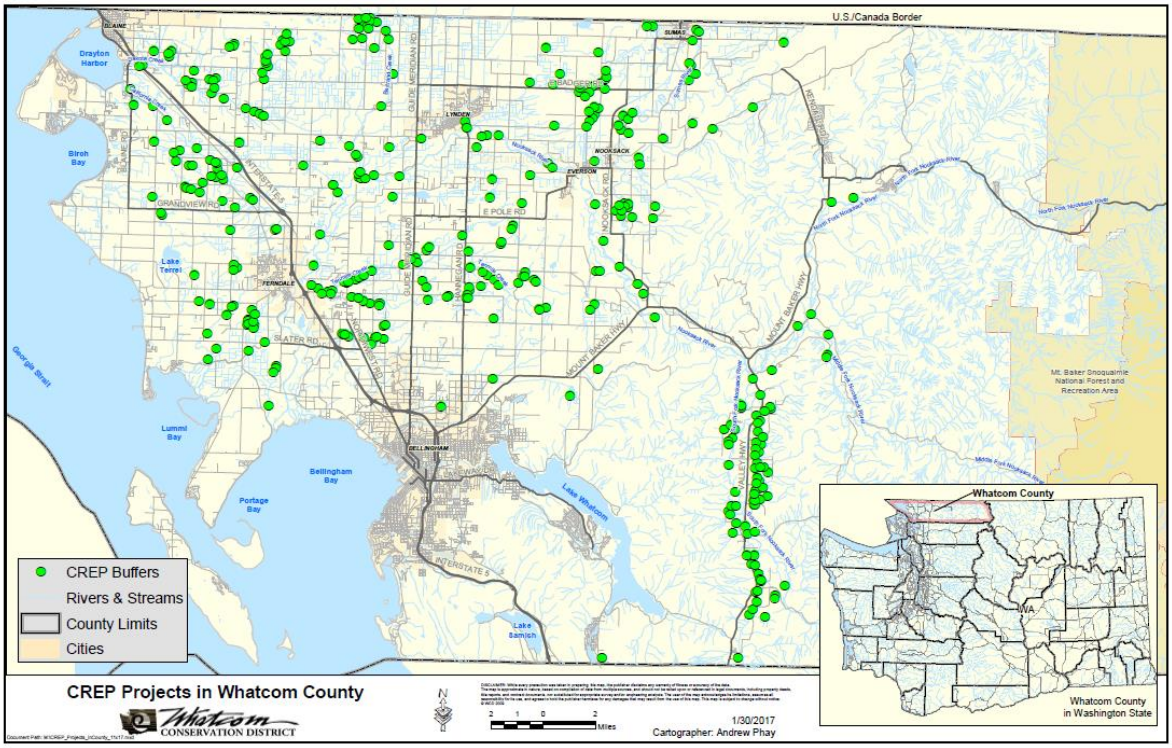
The Whatcom Conservation District (WCD) is a political subdivision of the State of Washington that assists rural landholders in Whatcom County with voluntary natural resource conservation choices. Since 1946, WCD has worked with rural landholders to fulfill their mission of "assist[ing] land managers with their conservation choices." The organization has an Executive Director, 14 staff members, and a governing board of five supervisors. All five supervisors are local residents.

WCD administers a variety of programs. The program included in this research is the Conservation Reserve Enhancement Program (CREP) program, a voluntary, incentive based federal/state partnership program administered by the US Department of Agriculture (USDA), Farm Service Agency. The primary goal of the program is to restore and protect critical fish habitat by paying landowners to establish native tree and shrub buffers along fish-bearing streams. WCD provides project planning and technical support for the CREP program. The CREP program is funded by the USDA, with cost share and WCD technical assistance funding from the Washington State Conservation Commission.

Landholders enroll in CREP to initiate the planning process. After enrolling, WCD begins a multi-month project planning and approval process. During this process, the landholder can withdraw without obligation. If the process continues and the project is approved for CREP, the landholder signs a 10 or 15 year lease agreement. The program pays for forested buffers and/or hedgerows, filter strips, wetland restoration, livestock exclusion fencing, livestock watering facilities, and occasionally livestock crossings. In addition to paying for the site improvements, the program pays landholders a signing bonus and annual rent payments for land

that is removed from production or grazing. As of the date of this thesis, the program has completed 476 projects covering 3,390 acres (Figure 3.4).

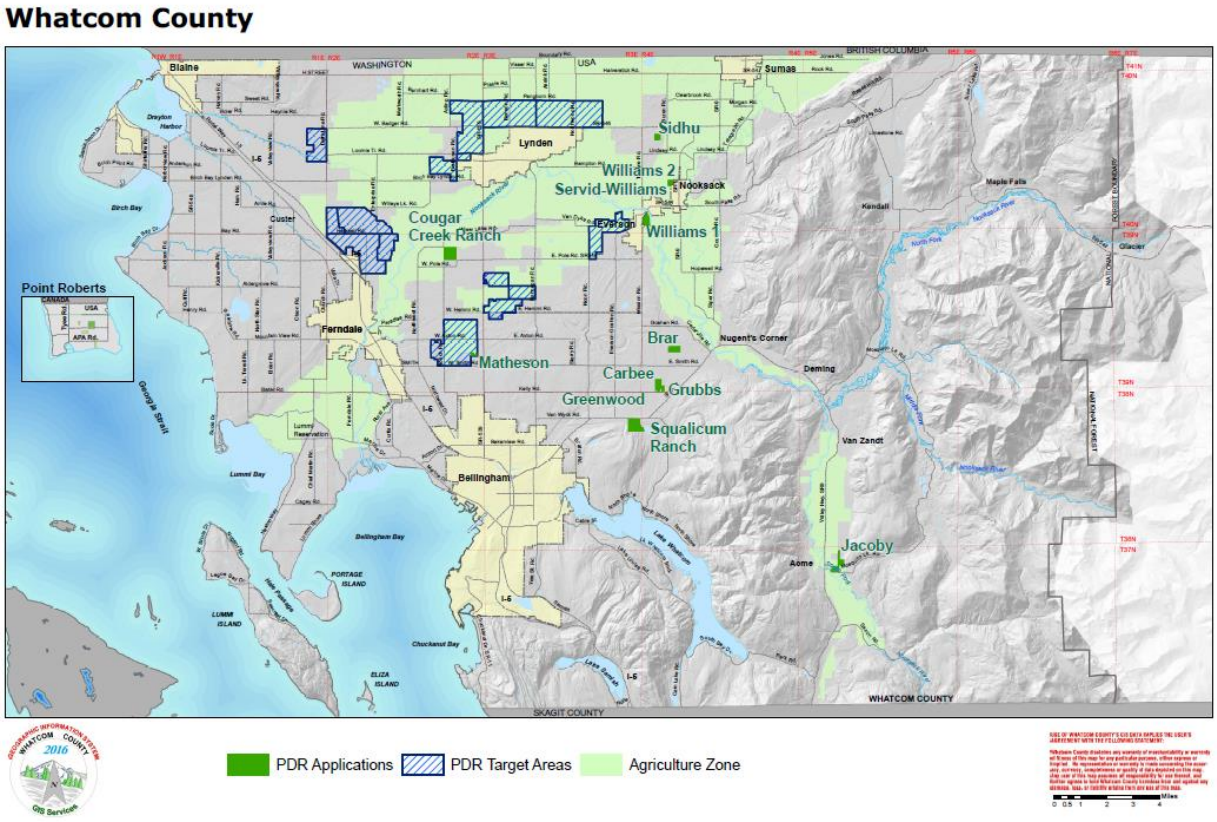
Figure 3.4 WCD CREP Projects



Whatcom County: Purchase of Development Rights Program

Whatcom County offers rural landholders the opportunity to sell their unexercised residential development rights and continue agricultural practices under the Purchase of Development Rights (PDR) program. The County began the voluntary program in September 2001 in response to increased farmland conversion (Resolution 2001-049). The goal of the program is to protect farmland and sustain agricultural heritage and economic vitality. The program applies to properties within the Agriculture or Rural zoning designation, an area that encompasses much of the Nooksack Watershed (Figure 3.5).

Figure 3.5 Whatcom County PDR Program Area



The PDR program is administered by the Whatcom County Planning and Development Services Department with purchase approval granted by the Whatcom County Council and County Executive. Program review and oversight is provided a PDR Oversight Committee comprised of seven citizen representing different sectors of the County. The program is funded in part through the County's Conservation Futures Fund, a property tax levy applied against all taxable real property within Whatcom County for the purpose of acquiring rights and interests in open space land, farm and agricultural land, and timber land to "protect, preserve, maintain, improve, restore, limit the future use of, or otherwise conserve the property for public use or

enjoyment" (Whatcom County Code Chapter 3.25). Whatcom County staff also apply for matching funds to be leveraged against Conservation Futures Fund dollars.

Landholders apply to Whatcom County for the PDR program. If their application is approved by the Whatcom County Council and County Executive for PDR expenditures, the landholder is given a purchase offer based on a land appraisal where the development rights value is the difference between the market value of full ownership of the land, and the agricultural value. Landholders sign a Purchase and Sale Agreement and the land is protected from future development in perpetuity through recording of a conservation easement. The easement is granted in favor of Whatcom County and monitored by a third party, the Whatcom Land Trust. As of the date of this thesis, the program has completed 16 PDR transactions.

Program Participants and Non-Participants

This study uses a non-probability sample. Administrators for the four conservation programs were asked to review their files and identify as many landholders as possible, with a goal of at least eight landholders who participated and eight landholders who declined to participate (non-participants) in their program. As described above, landholders are defined as a private owner or private lease-holder who made the initial decision to participate, not a landholder who inherited the project. Participation means substantive commitment to the program either by signing an agreement, receiving money, or start of on-the-ground activities.

This type of sampling has inherent biases toward individuals who participated in the program because their contact information is more likely to be kept on file. It also favors those who have a positive relationship with the conservation program administrator because the organization may more easily recall their contact information and the landholder is more likely to respond to an invitation from this individual (Fowler, 1988), and those that are more adept at

using the computer due to the selection of an online format for those with email addresses (see Survey Administration, below).

Survey Design

The survey is designed as a self-administered survey to maintain anonymity and avoid interviewer bias as described above. The survey is also mixed-mode to maximize survey distribution through both online and paper formats. Email addresses were available for only some landholders, so expanding the survey to include physical addresses allowed distribution to more landholders, especially those who are older and do not use the computer as their preferred mode of communication. The online format was completed using Qualtrics, a web-based survey software tool. The paper format was a booklet style survey. Both modes contain the same wording, question order, and response options to maximize reliability (the extent the answers reflect differences between individuals rather than differences in the survey) (Fowler, 1988).

The survey was pretested by two colleagues and one advisor prior to implementation. In addition, the survey was piloted on two landholders outside the study population. The Western Washington University Institutional Review Board (IRB) for human subjects research reviewed the survey and gave an Exemption Research Approval (EX17-017) on September 22, 2016. The human subjects research approval memorandum is included in Appendix A and the survey instrument is included in Appendix B.

The survey design is based on the literature and informed both by conversations with conservation professionals and by suggestions provided during pre-testing. The final survey contains an informed consent and introduction followed by three sections. The introduction explains that only one survey should be completed per household and the survey respondent should be the person responsible for making land use decisions.

Section 1: Relationship with the Conservation Organization

The first survey section is comprised of a mix of five questions about the general nature of the respondent's relationship with the conservation organization and the relative importance of trust. Answers to these questions help contextualize answers in the remainder of the survey. Questions 1 through 3 are factual questions that are expected to be relatively easy to answer; therefore, the questions are designed as categorical questions. One example of a categorical question is how long has the landholder known the organization's representative (four possible categories)? Question 4 is exploratory; therefore, the question is designed as an open-ended question to allow the respondent an opportunity to present new information. Question 5 asks the respondent to rank their answer in Question 4 using an ordinal close-ended question.

Section 2: Trust and Constructs of Trust

The second survey section focuses on both the dependent variable (trust) and the independent variables (constructs of trust) to help answer the three research questions (Table 3.2).

Trust

The section includes seven questions about the dependent variable, trust (Questions 6, 7, 10, 11, 12, 13 and 14). Questions 6 and 7 directly address trust by asking the respondent to what degree they trust the organization and the organization's representative. Questions 10, 11, 12, 13, and 14 indirectly address trust by asking ask the respondent to what degree they believe the organization or organization's representative respects and understands the respondent's goals.

Table 3.2 Survey Questions and Dependent Variable

Dependent Variable	Measurement Type	Question Number	Question Text
Trust Organization/Rep	Direct	6	I trust the organization.
	Direct	7	I trust the organization's representative.
Landholder Goals	Indirect	10	The conservation organization understands my needs and goals.
	Indirect	11	The conservation organization cares about my needs and goals.
	Indirect	12	The conservation organization's representative understands my needs and goals.
	Indirect	13	The conservation organization's representative cares about my needs and goals.
	Indirect	14	In general, the conservation organization's goals are consistent with my goals.

Constructs of Trust

The second survey section also contains questions focused on the independent variables, the constructs of trust. Twenty-three questions address the six constructs of trust: Personal Relationship, Social Structure, Reciprocity, Shared Worldview, Social Commitment, and Participation in Decision-Making. Constructs are represented by one to four interrelated questions. Each question is a construct "item." Shared Worldview is also addressed in the third survey section. The questions and their relationship to the constructs are shown in Table 3.3.

Table 3.3 Survey Questions and Relationship to Constructs and Measurements of Trust

Construct	Measurement/Item	Question Number	Question Text
Personal Relationships	Strong relationship with agent	8	I have a strong relationship with the conservation organization representative.
	Recommendation from friend/neighbor/family	22	A neighbor, friend, or family member recommended I work with the conservation organization.
Social Structure	Offers expert advice	9	I believe the conservation organization or the organization's representative can offer expert advice.
	Provides credible information on threats	16	The conservation organization's representative can provide credible information on threats and opportunities that affect me.
	Not the government	21	The conservation organization does not represent the government.
	Connection with another organization	26	The conservation organization is affiliated with other groups I respect.
Reciprocity	History of providing valuable information	17	The conservation organization provided valuable information to me or someone I know prior to my deciding to work with them.
	Giving back/Obligation	24	I feel obligated to give back to the conservation organization because it has given something valuable to me in the past.
	Giving back/Obligation	25	I feel obligated to work with the conservation organization because it has shown a history of supporting other groups or individuals I know.
Shared Worldview	Shared view of threats	15	The conservation organization's work addresses threats I believe are important.
	Individualism v Solidarism	29-34	Kahan's short form questions of Individualsim v Solidarism scale
Social Commitment	Long-term availability/ responsiveness	20	I have confidence the conservation organization will be available long-term to help resolve problems or answer questions after the project is complete.
	Long-term commitment to conservation	23	I believe the conservation organization has a long-term commitment to conservation.
Participation in Decision-Making	Adequate time to evaluate the program	18	There was adequate time to consider the program before I decided to participate.
	Opportunity for influencing the program	19	I was given the opportunity to have input on the design/work/agreement.
	Involved early in the process	27	I will likely have the opportunity to modify the agreement or action in the future if needed.

Section 2 includes an introductory statement acknowledging that, although the questions focus on trust, trust may not have been the most important factor for the respondent. The questions ask the respondent about opinions and attitudes that may be more difficult for the respondent to answer; therefore, the questions are designed as ordinal close-ended questions (Dillman et al., 2014). The first 22 questions provide a statement about trust and then ask the

respondent to use a Likert scale to indicate (a) to what extent they agree with the statement (strongly agree, agree, disagree, strongly disagree) and (b) how important it was in their decision to work/not work with the conservation organization (very important, important, slightly important, not important). Where appropriate, the statement was tailored to name the conservation organization associated with the individual survey respondent. One example statement is "I have a strong relationship with the Whatcom Land Trust representative." The majority of questions ask about the survey respondent's opinion rather than a factual question; therefore these questions use a four-point Likert scale without a neutral option to avoid the possibility that the respondent chose a neutral option because it was easier to answer (Dillman et al., 2014). A neutral option ("do not know" option using a five-point Likert scale) was only offered for questions that asked the survey respondent to estimate the opinion of the conservation organization.

While piloting the survey, one of the landholders expressed appreciation for having the opportunity to document their opinion but frustration because they could not explain their reasoning. Therefore, an optional open-ended response box was added at the end of Section 2. To help answer research question 3, what actions could these organizations take to improve trust, question 28 is an open-ended question asking if the conservation organization could do anything to earn or increase their trust, and if yes, how.

Section 3: Shared Worldview Supplemental Questions

The third survey section contains an additional six questions related to Shared Worldview (Kahan, 2012). This section repeats a survey by Kahan (2012) to measure a respondents' relative orientation on the individualism v solidarism scale. Individualists believe in securing their own needs without societal assistance and without regulatory constraints designed for collective good

(Douglas & Wildavsky, 1982; Kahan & Braman, 2006). They dismiss claims of environmental risk and are more committed to free market forces. In contrast, solidarists believe the collective good is more important than "individual initiative." They are more sensitive to environmental risks and are more willing to support regulation that increases social equity and reduces self-interest. As a result, participation in a voluntary conservation program to benefit collective natural resources is expected to be more associated with solidarists than individualists.

The survey questions utilize the "short form" version of the survey (Kahan, 2012). This abbreviated version has been shown to be as reliable as the full form (Kahan, 2012). The short form uses a total of six questions that balance the two ends of the continuous scale (three questions supportive of each end). Five of the six questions are identical to that described in Kahan (2012) and address concepts of privacy, protection, harm, and limited choice. For the sixth question, the survey instrument substitutes Kahan's question about interference with Kahan's question about interests[1]. All six questions are worded exactly as prescribed by Kahan to allow comparison with Kahan's findings. The survey does not include Kahan's questions for the hierarchy v egalitarianism scale because the scale is not as relevant to the topic of conservation and the questions would likely seemed out of context and confusing to the survey respondent.

Section 3 includes an introductory statement explaining willingness/ability to trust is sometimes related to a person's worldview about how individuals should make decisions for themselves. The six questions provide a statement such as "The government interferes far too

[1] The interests question Kahan used in the short-form scale for individualism is not shown in the list of questions in Kahan (2012); therefore, for the purposes of this study, the survey instrument substitutes the interference question for the interests question.

much in our everyday lives." The question then asked the respondent to indicate (a) to what extent they agree with the statement (strongly agree, agree, disagree, strongly disagree) and (b) to what extent they believe the conservation organization supports the statement as they relate to decisions about land use (strongly agree, agree, don't know, disagree, strongly disagree). The neutral "don't know" option is added for the second part of the question because the question asks the respondent to speculate rather than state their own opinion (Dillman et al., 2014).

Survey Validity

The survey design maximizes survey validity through standardization, question reliability, appropriate number of answer categories, and multiple questions combined into an index (Fowler, 1988). First, question reliability was maximized by standardizing language in the survey instruments and standardizing the survey format since respondents are known to respond similarly to the visual appearance of paper and web surveys (Dillman et al., 2014). In addition, question reliability is maximized by inserting the appropriate conservation organization name to reduce question ambiguity and limiting questions to a single issue. Third, the survey includes four or five answer categories for Likert scale questions. This number allows respondents to tailor their answers but does not provide so many categories that respondents have difficulty in discriminating their feelings. Finally, each construct of trust is measured using multiple questions that can be combined into an index (Babbie, 1973). With the exception of Shared Worldview, each construct is measured using at least two interrelated questions (Table 3.3). If the responses showed sufficient internal consistency, the answers to these questions were combined to help moderate idiosyncrasies between respondents. Shared Worldview consisted of one Likert question and the short form scale question in Section 3.

Survey Administration

The administrators of the four conservation programs distributed the survey on behalf of the researcher. This approach provided anonymity for the survey respondents. The researcher did not have access to the landholder names and contact information and the conservation organization did not have access to individual responses. Instead, the landholder was assigned a unique identification code provided by the conservation organization. The researcher used the unique identification code to confirm only one survey was submitted per household, initiate reminders, and verify the type of program associated with the response. Online responses were only accessible by the primary researcher using a Qualtrics login and password. The paper responses were mailed directly to the advisor using a pre-paid self-addressed envelope provided with the survey. The advisor removed the signed consent form and provided the survey to the primary researcher.

The conservation program administrators distributed the survey to a total of 99 landholders in October 2016. To reduce survey costs and response time, the program administrator sent all landholders with active, available email addresses an email with a link to the online Qualtrics survey. In the absence of an email address, the program administrator mailed the landholder a paper booklet-style survey with an introductory letter and stamped return envelope addressed to the researcher. Landholders were not given a choice of survey types because the choice can lower response rates (Dillman et al., 2014). Landholders were also not given an incentive for participating due to the difficulty of distributing the incentive online and maintaining anonymity.

Nonresponse and Reminders

Special measures were taken to reduce nonresponse. Both personal relationships and the promise of anonymity can increase response rates with mailed surveys (Dillman et al., 2014; Fowler, 1988). Therefore, as described above, the researcher requested the conservation program administrators distribute the survey because the program administrators have personal relationships with many of the landholders. In addition, as described above, the responses are anonymous and only available to the researcher. Landholders are expected to value anonymity since the survey asked them state opinions about their relationship with others in a community where the researcher, conservation organization staff, and landholder may all know each other.

The survey design includes personalized correspondence to reduce nonresponse. The email invitation was sent as an individual rather than group email and it included a greeting with the landholder's name. Similarly, the paper survey included a cover letter with the landholder's name and a hand-signed closing signature.

Finally, the study also utilizes multiple contacts, one of the most effective means of increasing responses (Dillman et al., 2014; Fowler, 1988). A pre-notice was not distributed ahead of the survey as it is not recommended for online surveys (Dillman et al., 2014). Instead, the contacts consisted of reminders for both the online and paper distribution formats. The conservation program administrators sent two reminders to each landholder who had not yet submitted a survey response. Reminders were in the same format (online or paper) as the original survey.

The timing and design of the reminders is based on Dillman (2014). The first reminder was distributed approximately one to two weeks following the initial survey. The first reminder

is designed as a personalized thank you to help remind landholders about the survey, especially those who had intended to participate but not yet submitted a survey. The second reminder was distributed approximately four weeks following the initial survey. The second reminder emphasized the importance of the landholder's response to the study, described the possible usefulness of the study results, and noted this was the final reminder. While the emailed reminder was personalized to the landholder, the paper version of the second reminder was not. Instead, this paper version included a replacement survey with a cover letter from the researcher instead of the conservation organization. To maintain landholder anonymity, the cover letter was not personalized and was mailed by the conservation organization in a conservation program envelope with a stamped response envelope addressed to the researcher.

Although Dillman (2014) recommends additional reminders, this study did not implement more than two for several reasons. First, additional reminders would result in increased workload for the conservation program administrators who were volunteering their time to distribute survey materials. Second, additional reminders would conflict with the end-of-year holidays. Third, the second reminder resulted in a much smaller response (initial invitation = 24% response from full sample, first reminder = 28% response from remaining sample, second response = 16% from remaining sample); therefore, additional reminders were expected to yield few (< 7) responses.

Data Analysis

The researcher uses a variety of data analysis tools to understand the landholder's level of trust in the organization and to answer the three research questions. Data analyses tools include measures of central tendency and dispersion, tests for association, and text coding. Below is a summary of each question and the relevant analyses. Data analysis of closed-ended questions is

completed using the statistical software IBM Statistical Package for Social Sciences (SPSS), Version 24 and MS Excel 2013. Data analysis of open-ended questions is completed by coding responses for expression of major concepts. Coding is done independently by two separate researchers to increase reliability.

Level of Trust

Data analysis to understand a landholder's level of trust in the conservation organization and their view on the relative importance of trust is performed in four steps. First, the Likert answers from all direct (Questions 6, 7) and indirect measures (Questions 10, 11, 12, 13, and 14) of trust are assigned numeric values. Most agreement questions include a 5-point Likert scale. Because agreement questions are analyzed together, all agreement questions for direct and indirect measures of trust are numbered based on a 5-point Likert scale (5 = strongly agree, 4= agree, 3 = do not know 2 = disagree, and 1 = strongly disagree). All importance questions are numbered based on a 4-point Likert scale (3 = very important, 2 = important, 1 = slightly important, 0 = not important).

Second, once numbered, the direct and indirect measures of trust are then tested for internal consistency to determine if they can be combined into a single index. The direct measures (Questions 6 and 7) are tested to determine if they can be combined into a direct trust index, then the indirect measures (Questions 10, 11, 12, 13, and 14) are tested to determine if they can be combined into an indirect trust index. Finally, the direct and indirect measures are tested together to determine if they can be combined into an overall trust index. Internal consistency is measured using Cronbach's alpha. Cronbach's alpha is a common measure of internal consistency, especially for categorical data such as Likert items. The Cronbach's alpha formula yields a single coefficient that ranges from 0 to 1. Social science researchers generally

consider an alpha of 0.70 or higher as indicating internal consistency. For the purposes of this study, if the questions do not meet a minimum alpha of 0.70, the questions are analyzed as separate items. If they meet the minimum alpha of 0.70, the responses are combined into an index.

Third, the 29 survey responses (27 participants, 2 non-participants) are analyzed to determine central tendency and dispersion for trust. Central tendency and dispersion are calculated for participants for both agreement and importance. Because only two non-participants responded to the survey, non-participant data is not included in central tendency tables or dispersion graphs. However, non-participant results are described in the text. Because trust measures are combined into a scale, the mean is used to measure central tendency and standard deviation is used to document dispersion.

Fourth, the importance of trust is analyzed relative to other factors. Answers to Survey Question 4, ("There may be many reasons why you decided to work/not work with the program. What were the two most important reasons for you?") were coded to identify common concepts. Then, descriptive statistics are used to analyze survey Question 5 "How important was trust compared to the reasons listed in Question, above?" (trust in the program and/or the program representative). The Likert responses to Question 5 are assigned a numeric value (4 = much more important, 3 = somewhat more important, 2 = equally important, 1 = somewhat less important, and 0 = not important). The median is used to measure central tendency and a distribution table is used to measure dispersion. The median is selected over mode or mean because it is the most appropriate analysis of ordinal categorical data (Lovelace & Brickman, 2013).

Research Question 1: Are the Constructs Associated with Trust as Expected?

Data analyses used to answer research question 1, Are the constructs associated with trust as expected?, is conducted in four steps. First, the Likert answers from all constructs of trust measures (Questions 8, 9, and 15 – 27) are assigned numeric values. Both agreement questions and all importance questions are numbered based on a 4-point Likert scale (4 = strongly agree, 3 = agree, 2 = disagree, 1 = strongly disagree, 3 = very important, 2 = important, 1 = slightly important, 0 = not important).

Second, each construct is tested for internal consistency to determine if individual construct items can be combined into a single construct index. As described above under Level of Trust, internal consistency is measured using Cronbach's alpha. Again, the alpha was set at a minimum of 0.70. However, even if the alpha is > 0.70, the construct questions are analyzed as independent items using non-parametric methods. Independent item analysis is the most appropriate method of analysis due to the small sample size, small number of response items, and small number of interrelated construct items (Babbie, 1973; Lovelace & Brickman, 2013).

Third, the 29 survey responses (27 participants, 2 non-participants) are analyzed to determine central tendency and dispersion for each construct item. Central tendency and dispersion are calculated for participants for both agreement and importance. Because only two non-participants responded to the survey, non-participant data is not included in central tendency tables or dispersion graphs. However, non-participant results are described in the text. The median is used to measure central tendency and distribution bar graphs are used to document dispersion.

Fourth is the analysis of association between the six constructs (Table 3.3) and trust (Table 3.2). Association with trust is measured using non-parametric methods. The non-parametric method selected for testing most associations is the Mann-Whitney U test. The Mann-Whitney U test is a non-parametric method appropriate for comparing differences between two independent groups when the dependent variable is either ordinal or continuous, but not normally distributed. A composite score for trust is used as the test (dependent) variable and Likert responses converted to nominal agree/disagree is used as the group (independent) variable. The groups are assumed to not have the same shaped distribution. The Kruskal-Wallis H test, another non-parametric method, is used when comparing differences between more than two independent groups. Using the SPSS software, the Mann-Whitney U test and Kruskal-Wallis H test are calculated with a p-value set at <0.05. The null hypothesis is that the mean trust score does not differ between those who agree and those who disagree with the construct statement.

Research Question 2: Which are the Most Important Constructs?

Data analyses used to answer research question 2, Which constructs of trust are most important in a landholder's decision to participate in voluntary conservation programs?, is conducted in five steps. First, the Likert answers from all constructs of trust measures (Questions 8, 9, and 15 – 27) are assigned numeric values as described for research question 1, above.

Second, participants and non-participant responses are tested to see if they have differences in agreement and importance to determine if the construct may have had a real impact on conservation opportunity. Differences are tested using Kruskal-Wallis H test. Third, the central tendency and dispersion measures described under research question 1 are used to identify the constructs with the highest median importance.

Fourth, descriptive statistics is performed to test the association between construct importance and construct agreement to confirm that the reported importance is consistent with the agreement and decision to participate. For example, if a landholder participated in a program and reported that a construct item was important, the researcher would expect the landholder would agree the construct is present. Association is analyzed using Fisher's exact test of independence. Fisher's exact test was chosen because it is a non-parametric method appropriate for ordinal data with small sample sizes. Although chi-squared is a stronger non-parametric test, this study's response table violates the minimum of five responses in each response group required for the chi-squared test. Each construct question is converted to two nominal categories (agree/disagree) for use in the Fisher's exact test. Using the SPSS software, the Fisher's exact test is calculated with a two-tailed p-value set at <0.05. The null hypothesis is that agreement is not related to trust. Because only two non-participants responded to the survey, association is only tested for participant surveys.

Fifth, the supplemental questions for the Shared Worldview construct contained in Section 3 is analyzed to better understand the Shared Worldview construct. The questions are analyzed for central tendency and dispersion. Questions 29-34 on Shared Worldview replicate the Kahan short form scale for Cultural Cognition. The Likert responses to Questions 29-34 are assigned a numeric value. Questions about the extent the respondent agrees with the statement are numbered based on a 4-point Likert scale (4 = strongly agree, 3 = agree, 2 = do not know, and 1 = disagree) and questions about the extent the respondent believes the organization supports the statement are numbered based on a 5-point Likert scale (5 = strongly agree, 4 = agree, 3 = do not know, 2 = disagree, and 1 = strongly disagree). In accordance with Kahan, the solidarism item scores are reverse-coded. The items are then verified for internal consistency

using Cronbach's alpha. If consistent, the solidarism scores are combined with the individualism scores for a total score for each survey respondent. The scores are then plotted on a frequency graph. Because their composite score is a scale, the results are analyzed using parametric methods. Using the SPSS software, the mean is used as the measure of central tendency standard deviation as the measure of dispersion.

Research Question 3: What Actions Can Improve Trust?

The answers to Survey Question 28, Could the organization do anything to earn or increase your trust?, is coded for participants and non-participants. Codes represent the structural and social factors contained within the study's conceptual framework. The responses are also reviewed for new information that is not consistent with conceptual framework.

Chapter 4. Results

Survey Responses

The four conservation organizations distributed a total of 99 surveys (76 to participants and 23 to non-participants) (Table 4.1). The overall survey response rate is 39% (49% for participants and 9% for non-participants). The WCD has the highest number of responses with 17 (16 participants and one non-participant). Whatcom County has the lowest number of responses with one respondent (participant).

A total of 29 out of the 39 surveys returned are suitable for analysis (27 participants, 2 non-participants). Out of the 10 surveys eliminated from analysis, eight are eliminated because the majority of the answers are left blank, one survey contains a duplicate identification code and only answers for five of the 34 questions, and another survey contains answers entirely in text boxes rather than utilizing the Likert scale. For this last survey, although the survey is eliminated from descriptive statistics, it is used in coding open-ended survey questions.

Table 4.1 Survey Response Rate

Organization/Program	Number Distributed	Number Returned	% Returned	Number Analyzed*	% Analyzed of Returned
Participants					
WLT - Easements/Donations	15	9	60%	8	89%
NSEA - Stream Restoration	30	11	37%	10	91%
WCD – CREP	21	16	76%	8	50%
Whatcom County - PDR	10	1	10%	1	100%
SUBTOTAL	76	37	49%	27	73%
Non-Participants					
WLT - Easements/Donations	1	1	100%	1	100%
NSEA - Stream Restoration	0	0	N/A	0	N/A
WCD – CREP	14	1	7%	1	100%
Whatcom County - PDR	8	0	0%	0	N/A
SUBTOTAL	23	2	9%	2	100%
GRAND TOTAL	**99**	**39**	**39%**	**29**	**74%**

*Does not include survey with text only answers. This survey was included in coding for open-ended questions.

Internal Consistency

Interrelated items are tested for internal consistency on "agreement" for both the dependent variable (trust) and independent variables (constructs). Because only two non-participants responded to the survey, internal consistency is only tested for participant responses.

Internal Consistency of Trust Items

Internal consistency of trust items is calculated to determine a landholder's level of trust in a conservation organization and to answer research question 1. Answers to the agreement questions for the direct items of trust (Questions 6 and 7) have a Cronbach's alpha slightly lower than 0.70 for participant surveys; therefore, are considered not having sufficient internal consistency to combine into a direct index. However, indirect items of trust (Questions 10, 11, 12, 13, and 14) have sufficient internal consistency in participant surveys to allow the answers to be combined into an indirect index (Table 4.2). When combined, the direct and indirect items have sufficient internal consistency to allow the answers to be combined into a single index for trust. Similarly, answers to the importance questions for the direct items of trust (Questions 6 and 7) and indirect items of trust (Questions 10, 11, 12, 13, and 14) each have sufficient internal consistency in participant surveys to allow the answers to be combined into a direct index and indirect index (Table 4.2). In addition, when combined, the direct and indirect items for importance have sufficient internal consistency to allow the answers to be combined into a single index for trust.

Table 4.2 Internal Consistency of Trust Items, Agreement

Dependent Variable	Question Number	Question Text/Item	AGREEMENT Cronbach's Alpha*		IMPORTANCE Cronbach's Alpha*	
Trust Organization/ Representative	6	I trust the organization.	0.675	0.842	0.937	0.904
	7	I trust the organization's representative.				
Landholder Goals	10	The conservation organization understands my needs and goals.	0.781		0.868	
	11	The conservation organization cares about my needs and goals.				
	12	The conservation organization's representative understands my needs and goals.				
	13	The conservation organization's representative cares about my needs and goals.				
	14	In general, the conservation organization's goals are consistent with my goals.				

*Minimum alpha set at 0.70 (considered internally consistent if alpha ≥0.70)

Internal Consistency of Construct Items

Internal consistency of construct items is calculated to answer research question 2. Answers to the agreement question for each of the six constructs all have Cronbach's alpha <0.70 (Table 4.3); therefore, are determined not internally consistent. Social Structure, Reciprocity, and Participation in Decision-Making all have three items. Even when removing one item, none of the constructs have internal consistencies >0.70 (Table 4.4). The analysis reveals Question 21 as the least consistent question for Social Structure, Question 24 as the least consistent question for Reciprocity, and Question 27 as the least consistent question for Participation in Decision-Making. The lack of internal consistency is understandable due to the small sample size, small number of response items, and small number of interrelated construct items (Babbie, 1973; Lovelace & Brickman, 2013) and supports the researcher's decision to analyze construct items separately.

Table 4.3 Internal Consistency of Construct Items, Agreement

Construct	Question Number	Question Text/Item	Cronbach's Alpha if Item Deleted
Personal Relationships	8	I have a strong relationship with the conservation organization representative.	0.397
	22	A neighbor, friend, or family member recommended I work with the conservation organization.	
Social Structure	9	I believe the conservation organization or the organization's representative can offer expert advice.	0.328
	16	The conservation organization's representative can provide credible information on threats and opportunities that affect me.	
	21	The conservation organization does not represent the government.	
	26	The conservation organization is affiliated with other groups I respect.	
Reciprocity	17	The conservation organization provided valuable information to me or someone I know prior to my deciding to work with them.	0.251
	24	I feel obligated to give back to the conservation organization because it has given something valuable to me in the past.	
	25	I feel obligated to work with the conservation organization because it has shown a history of supporting other groups or individuals I know.	
Shared Worldview	15	The conservation organization's work addresses threats I believe are important.	N/A*
Social Commitment	20	I have confidence the conservation organization will be available long-term to help resolve problems or answer questions after the project is complete.	0.523
	23	I believe the conservation organization has a long-term commitment to conservation.	
Participation in Decision-Making	18	There was adequate time to consider the program before I decided to participate.	0.518
	19	I was given the opportunity to have input on the design/work/agreement.	
	27	I will likely have the opportunity to modify the agreement or action in the future if needed.	

*Only one question suitable combining into index

**Minimum alpha set at 0.70 (considered internally consistent if alpha ≥0.70)

Table 4.4 Internal Consistency of Constructs if Items Deleted, Agreement

Construct	Question Number	Question Text/Item	Cronbach's Alpha if Item Deleted
Social Structure	9	I believe the conservation organization or the organization's representative can offer expert advice.	0.351
	16	The conservation organization's representative can provide credible information on threats and opportunities that affect me.	0.015
	21	**The conservation organization does not represent the government.**	**0.582**
	26	The conservation organization is affiliated with other groups I respect.	0.028
Reciprocity	17	The conservation organization provided valuable information to me or someone I know prior to my deciding to work with them.	0.198
	24	**I feel obligated to give back to the conservation organization because it has given something valuable to me in the past.**	**0.345**
	25	I feel obligated to work with the conservation organization because it has shown a history of supporting other groups or individuals I know.	-0.175
Participation in Decision-Making	18	There was adequate time to consider the program before I decided to participate.	-0.584
	19	I was given the opportunity to have input on the design/work/agreement.	-0.751
	27	**I will likely have the opportunity to modify the agreement or action in the future if needed.**	**0.600**

**Minimum alpha set at 0.70 (considered internally consistent if alpha ≥0.70)

Shared Worldview questions 29 through 34 are analyzed separately due to their format as the short form scale from Kahan (2012). Although Kahan previously tested the short form Shared Worldview items for internal consistency, the survey instrument in this study substitutes the interference item with the interest item. Therefore, the items used in this study are tested for internal consistency to confirm they can be combined into a scale. When the landholder is asked about their own worldview, the three individualism items and three reverse-coded solidarism items together have a Cronbach's alpha of 0.935. This internal consistency is higher than if any one of the items are removed (Table 4.5). This result confirms the combination of Kahan worldview items into a single scale. When the landholder is asked about the organization's worldview, the majority answered "don't know;" therefore, these questions are not used in the analysis.

Table 4.5 Internal Consistency of Worldview if Items Deleted, Agreement

Construct	Individualism/ Solidarism	Question Number	Question Text/Item	Cronbach's Alpha if Item Deleted
Shared Worldview	Individualism	29	The government interferes too much in our everyday lives.	0.930
	Solidarism	30	Sometimes government needs to make laws that keep people from hurting themselves.	0.931
	Individualism	31	It's not the government's business to try and protect people from themselves.	0.915
	Individualism	32	The conservation organization is affiliated with other groups I respect.	0.917
	Solidarism	33	The government should stop telling people how to live their lives.	0.927
	Solidarism	34	Government should put limits on the choices individuals can make so they don't get in the way of what's good for society.	0.919

**Minimum alpha set at 0.70 (considered internally consistent if alpha ≥0.70)

Central Tendency and Dispersion

Central tendency and dispersion are measured for both the dependent variable (trust) and independent variables (constructs). For each variable, central tendency and dispersion are calculated for both agreement and importance.

Central Tendency and Dispersion of Trust

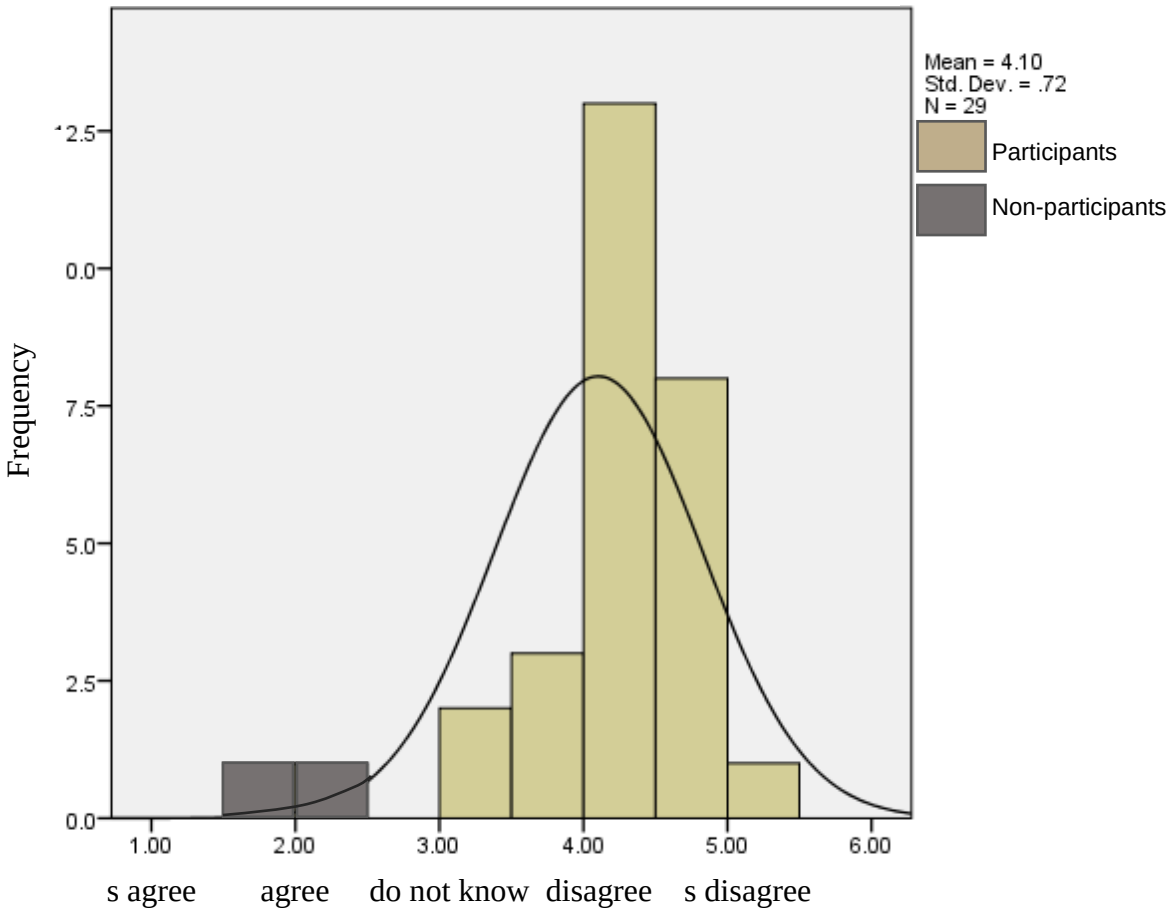
Central tendency and dispersion of trust is measured to determine landholders' level of trust in a conservation organization and to answer research question 1. The survey contains both direct and indirect items of trust. Due to their internal consistency, they can be combined into a single index. For participants, the index for agreement has a mean of 4.28 (slightly higher than "agree") and the index for importance has a mean of 2.29 (slightly higher than "important") (Table 4.6, Figures 4.1 and 4.2). Although there are only two non-participant survey responses, their average scores are calculated for comparison. The non-participant index for agreement has a mean of 2.07 (slightly higher than "disagree") and their index for importance has a mean of 2.00 ("important").

Table 4.6 Frequencies Table – Index of Trust

	PARTICIPANTS (N=27)		NON-PARTICIPANTS (N=2)		TOTAL (N = 29)	
	Agreement	Importance	Agreement	Importance	Agreement	Importance
Median	4.28	2.29	*	*	4.10	2.29
Mean	4.25	2.29	2.07	2.00	4.14	2.27
Standard Deviation	0.46	0.57	*	*	0.72	0.56

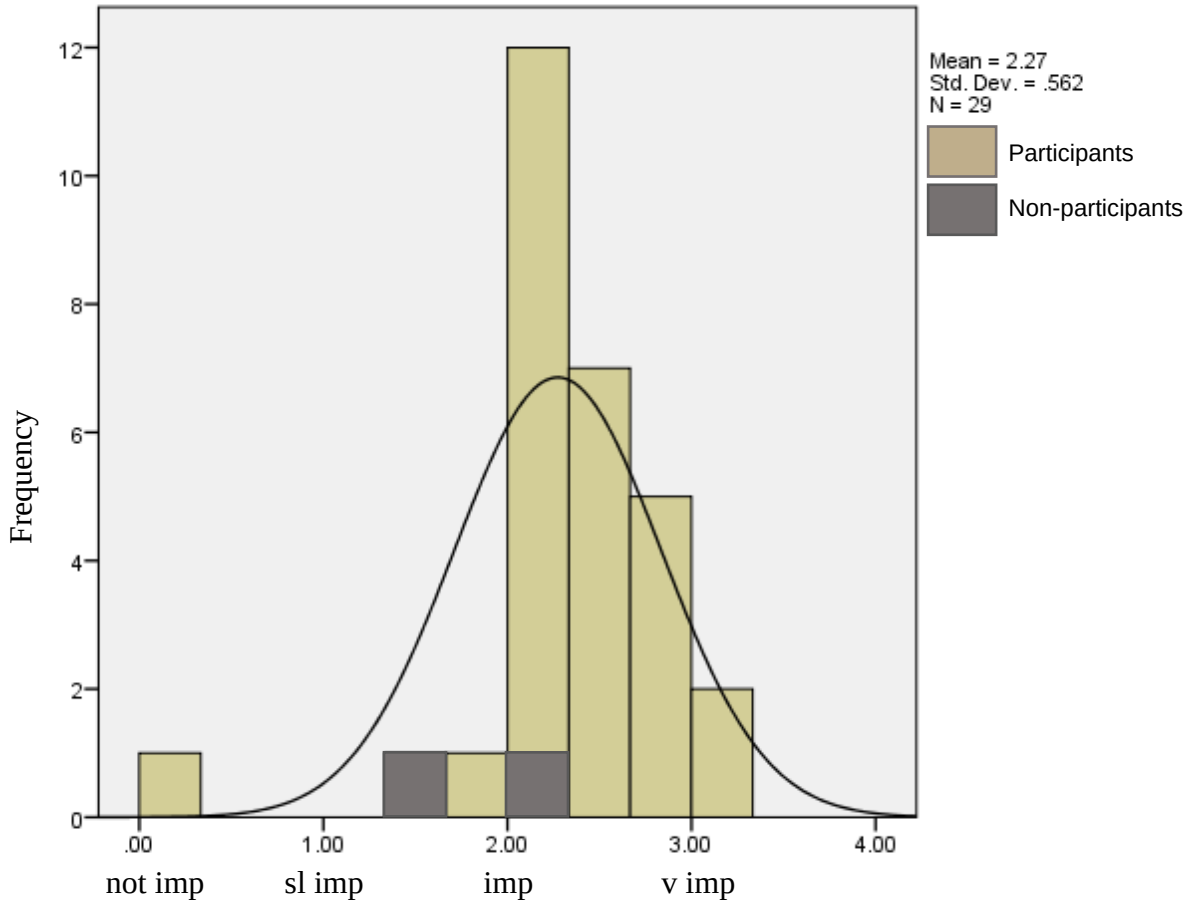
*Not applicable, two respondents
5 = strongly agree, 4 = agree, 3 = do not know, 2 = disagree, and 1 = strongly disagree
3 = very important, 2 = important, 1 = slightly important, and 0 = not important

Figure 4.1 Frequency of Trust Index, Agreement



Mean Trust Index Score, Importance

Figure 4.2 Frequency of Trust Index, Importance



Direct and indirect trust items are also analyzed separately. The direct items included Question 6 "I trust the organization." and Question 7 "I trust the organization's representative." Of the 27 participants, the vast majority agree or strongly agree that they trust the organization and organization's representative (Table 4.7, Figure 4.3). The median for participants is 5 ("strongly agree"), the mean is 4.52 (stronger than "agree"), and the standard deviation is 0.61. Of the two non-participants who responded to the survey, neither trust the organization and only one trusts the representative (Table 4.7, Figure 4.4).

The majority of participants and non-participants identify trust as important or very important in their decision to work with the organization (Table 4.8). The median for participants

is 3 (“very important”), the mean is 2.43 (stronger than “important”), and the standard deviation is 0.80.

Table 4.7 Distribution Table – Direct Items of Trust, Agreement

	PARTICIPANTS (N=27)		NON-PARTICIPANTS (N=2)	
Agreement	Trust Organization	Trust Representative	Trust Organization	Trust Representative
Strongly agree	52%	59%	0%	0%
Agree	44%	41%	0%	50%
Disagree	4%	0%	50%	0%
Strongly disagree	0%	0%	50%	50%
Median	5	5	*	*
Mean	4.52		2.00	
Standard Deviation	0.61		*	

5 = strongly agree, 4 = agree, 3 = do not know, 2 = disagree, and 1 = strongly disagree
*Not applicable, two respondents

Figure 4.3 Agreement on Direct Items of Trust, Participants

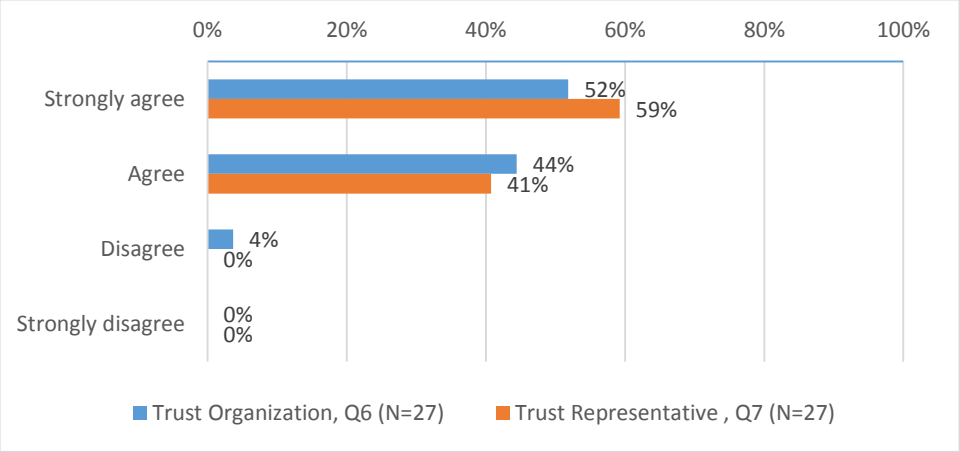


Figure 4.4 Agreement on Direct Items of Trust, Non-Participants

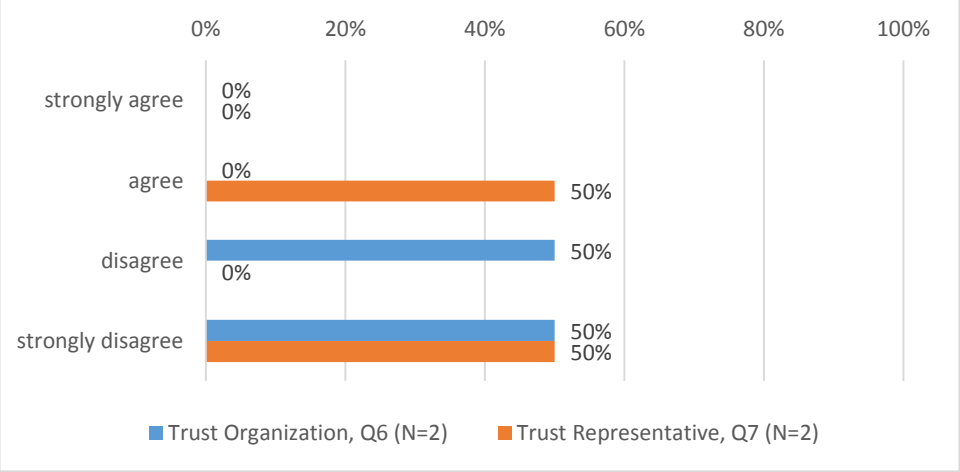


Table 4.8 Distribution Table – Direct Items of Trust, Importance

	PARTICIPANTS (N=27)		NON-PARTICIPANTS (N=2)	
Importance	**Trust Organization**	**Trust Representative**	**Trust Organization**	**Trust Representative**
Very important	59%	52%	50%	50%
Important	33%	37%	50%	0%
Slightly important	4%	0%	0%	0%
Not important	4%	7%	0%	50%
Median	3	3	*	*
Mean	2.43		2.00	
Standard Deviation	0.80		*	

3 = very important, 2 = important, 1 = slightly important, and 0 = not important
*Not applicable, two respondents

The indirect items of trust include Questions 10, 11, 12, 13, and 14. These questions ask the landholder about whether the organization or organization's representative respects and understands the respondent's goals. Of the 27 participants, the vast majority agree or strongly agree that the organization and organization's representative respects and understands the landholder's goals (Table 4.9, Figure 4.5). The median for participants is 3 ("agree"), the mean is 4.15 (slightly stronger than "agree"), and the standard deviation is 1.02. Of the two non-participants who responded to the survey, they disagree or strongly disagree with most items (Table 4.10, Figure 4.6). A few "do not know" and none "agree" or "strongly agree."

The majority of participants and non-participants identify trust as "important" or "very important" in their decision to work with the organization (Table 4.10). The median for participants is 2 ("important"), the mean is 2.23 (slightly stronger than "important"), and the standard deviation is 0.69.

Table 4.9 Distribution Table – Indirect Items of Trust, Agreement

	PARTICIPANTS (N=27)					NON-PARTICIPANTS (N=2)				
Agreement	**Org. Under. Goals**	**Org. Cares About Goals**	**Rep. Under. Goals**	**Rep. Cares About Goals**	**Org. and Landh. Goals Consistent**	**Org. Under. Goals**	**Org. Cares About Goals**	**Rep. Under. Goals**	**Rep. Cares About Goals**	**Org. and Landh. Goals Consistent**
Strongly agree	33%	26%	22%	26%	30%	0%	0%	0%	0%	0%
Agree	56%	59%	67%	63%	67%	0%	0%	0%	0%	0%
Disagree	4%	0%	4%	0%	4%	50%	100%	50%	50%	100%
Strongly disagree	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%
Do not know	0%	0%	0%	0%	0%	0%	0%	50%	50%	0%
Median	4	4	4	4	4	*	*	*	*	*
Mean	4.15					2.10				
Standard Deviation	0.65					*				

5 = strongly agree, 4 = agree, 3 = do not know, 2 = disagree, and 1 = strongly disagree
*Not applicable, two respondents

Figure 4.5 Agreement on Indirect Items of Trust, Participants

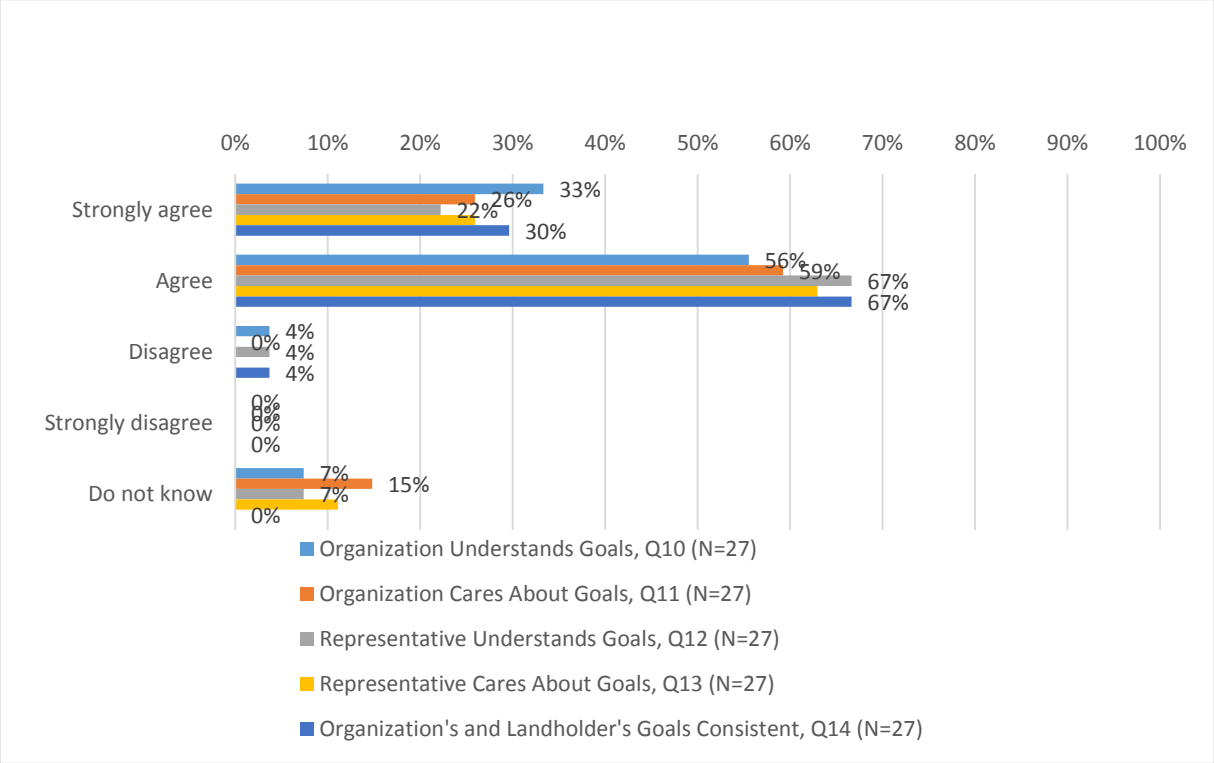


Figure 4.6 Agreement on Indirect Items of Trust, Non-Participants

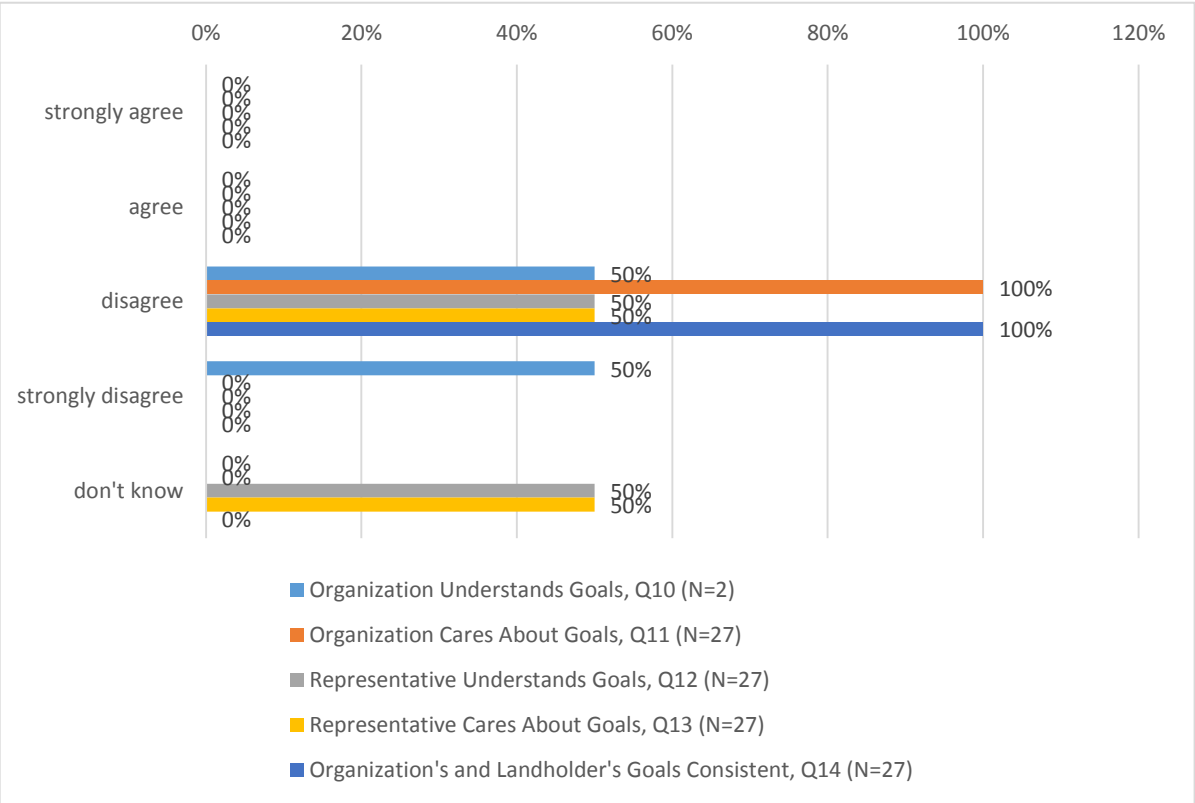


Table 4.10 Distribution Table – Indirect Items of Trust, Importance

	PARTICIPANTS (N=27)					NON-PARTICIPANTS (N=2)				
Importance	**Org. Under. Goals**	**Org. Cares About Goals**	**Rep. Under. Goals**	**Rep. Cares About Goals**	**Org. and Landh. Goals Consistent**	**Org. Under. Goals**	**Org. Cares About Goals***	**Rep. Under. Goals***	**Rep. Cares About Goals**	**Org. and Landh. Goals Consistent**
Very important	41%	26%	30%	26%	44%	0%	0%	0%	0%	50%
Important	52%	63%	63%	67%	44%	100%	50%	50%	50%	50%
Slightly important	4%	4%	0%	0%	4%	0%	0%	0%	50%	0%
Not important	4%	4%	4%	4%	4%	0%	0%	0%	0%	0%
Median	2	2	2	2	2	*	*	*	*	*
Mean	2.23					2.00				
Standard Deviation	0.69					*				

3 = very important, 2 = important, 1 = slightly important, and 0 = not important
*Not applicable, two respondents
**only one of the two non-participants responded to this question

Central Tendency and Dispersion of Constructs

Central tendency and dispersion of constructs are measured to answer research questions 1 and 2. Out of the 15 construct items, participants tend to "disagree" with two: "A neighbor, friend, or family member recommended I work with the conservation organization." (Personal Relationship, Question 22) and "I feel obligated to work with the conservation organization because it has shown a history of supporting other groups or individuals I know." (Reciprocity, Question 25) (Table 4.11). All other items have a median of "agree."

No construct item has a median of "not important." Four items have the lowest reported median importance level, "slightly important." These four items include the two items with a median of "disagree" and also "The conservation organization is affiliated with other groups I respect." (Social Structure, Question 26) and "I feel obligated to give back to the conservation organization because it has given something valuable to me in the past." (Reciprocity, Question 24).

Dispersion is shown in bar graphs under each of the construct subsections, below. Because agreement and importance do not have equivalent category distribution (number of agree categories vs number of importance categories), for the purposes of the graphs, the data was combined into two nominal categories: agree/important and disagree/not important. The two nominal categories facilitate comparisons between the agreement and importance graphs.

Table 4.11 Central Tendency – Constructs of Trust

Construct	Question Number	Question Text/Item	Agreement Median	Importance Median
Personal Relationships	8	I have a strong relationship with the conservation organization representative.	3	2
	22	A neighbor, friend, or family member recommended I work with the conservation organization.	2	1
Social Structure	9	I believe the conservation organization or the organization's representative can offer expert advice.	3	2
	16	The conservation organization's representative can provide credible information on threats and opportunities that affect me.	3	2
	21	The conservation organization does not represent the government.	3	2
	26	The conservation organization is affiliated with other groups I respect.	3	1
Reciprocity	17	The conservation organization provided valuable information to me or someone I know prior to my deciding to work with them.	3	2
	24	I feel obligated to give back to the conservation organization because it has given something valuable to me in the past.	3	1
	25	I feel obligated to work with the conservation organization because it has shown a history of supporting other groups or individuals I know.	2	1
Shared Worldview	15	The conservation organization's work addresses threats I believe are important.	3	2
Social Commitment	20	I have confidence the conservation organization will be available long-term to help resolve problems or answer questions after the project is complete.	3	2
	23	I believe the conservation organization has a long-term commitment to conservation.	4	3
Participation in Decision-Making	18	There was adequate time to consider the program before I decided to participate.	3.5	2
	19	I was given the opportunity to have input on the design/work/agreement.	3	3
	27	I will likely have the opportunity to modify the agreement or action in the future if needed.	3	2

4 = strongly agree, 3 = agree, 2 = disagree, and 1 = strongly disagree
3 = very important, 2 = important, 1 = slightly important, and 0 = not important

Personal Relationship

The items of Personal Relationship include Questions 8 and 22. These items ask the landholder about whether the landholder had a relationship with the organization's representative or whether someone recommended they work with the organization. Of the 27 participants, the majority "agree" that they have a relationship with the organization's representative and that this relationship was important in their decision to participate in the program (Table 4.12, Figure 4.7, and Figure 4.8). The relationship statement has both the highest agreement (median of 3, "agree") and importance (median of 2, "important") (Table 4.12).

In contrast to the participants, the two non-participants who responded to the survey both state they disagree that they have a strong relationship with the organization's representative yet one reports it was "important" and the other reports it was "very important" in their decision not to work with the organization (Appendix C).

Figure 4.7 Agreement on Personal Relationship, Participants

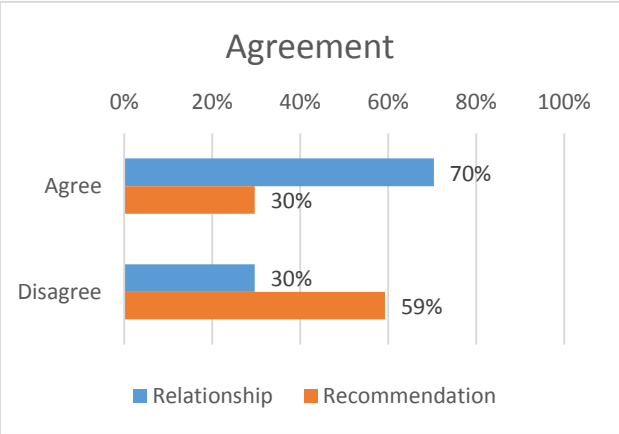
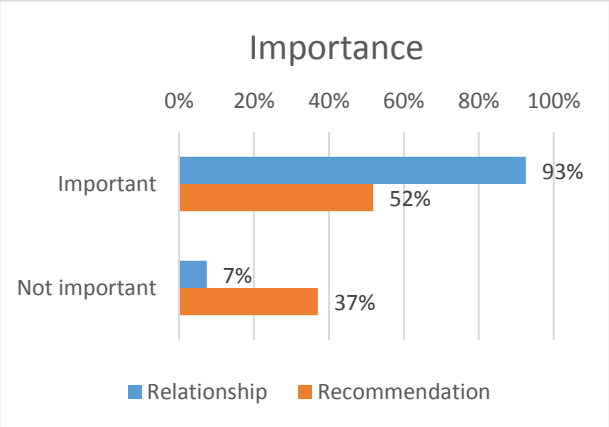


Figure 4.8 Importance of Personal Relationship, Participants



Social Structure

The items of Social Structure include Questions 9, 16, 21 and 26. These items ask whether the organization can provide expert advice, can provide credible information on threats

and opportunities, is not affiliated with the government, or affiliated with other respected groups. Of the 27 participants, the majority "agree" with all Social Structure statements and that all statements were "important" in their decision to participate in the program (Table 4.12, Figure 4.9, and Figure 4.10). The expert advice, credible information, and lack of affiliation with the government statements all have the highest agreement (median of 3. "strongly agree") and importance (median of 2, "important") (Table 4.12). The organization with the least affiliation with government was the WLT. Only the affiliation with other groups has less importance (median of 1, "slightly important").

In contrast to the participants, the two non-participants who responded to the survey, do not consistently agree or disagree with the four items. However, they both report the organization's ability to provide credible information on threats and opportunities and their lack of affiliation with the government was important in their decision not to work with the organization (Appendix C).

Figure 4.10 Agreement on Social Structure, Participants

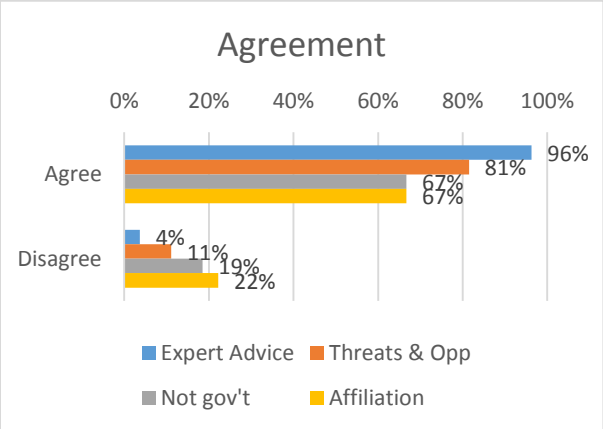
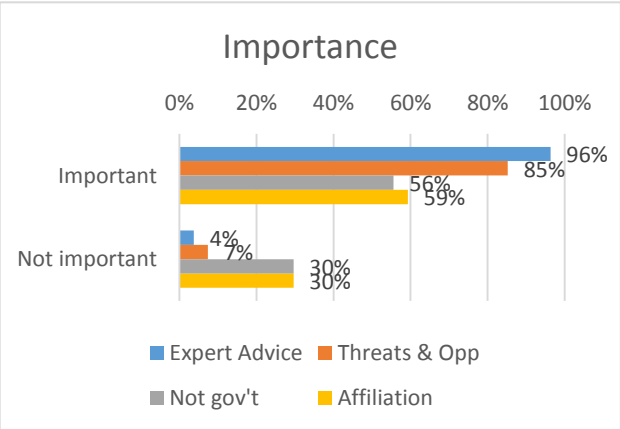


Figure 4.9 Importance of Social Structure, Participants



Reciprocity

The items of Reciprocity include Questions 17, 24, and 25. These items ask whether the organization provided valuable information in the past, whether the landholder felt obligated to give back because the organization had given something valuable in the past, or whether they felt obligated due to the organization's support of others. Of the 27 participants, the majority only "agree" with the Reciprocity items that the organization had provided valuable information and that they felt obligated to give back due to the organization's history of giving something valuable. The majority of participants also reported that both of these items were important in their decision to participate in the program (Table 4.12, Figure 4.11, and Figure 4.12). The majority of participants "disagree" they felt obligated to work with the organization because the organization supported other groups or individuals they know; however, the majority report this item is important. The statement that the organization provided valuable information has both the highest agreement (median of 3. "agree") and importance (median of 2, "important") (Table 4.12).

In contrast to the participants, the two non-participants who responded to the survey, do not have consistent agreement or importance for most of the items, including the two items with greatest agreement for participants: Q17 valuable information and Q24 obligation to give back the four questions. Their one consistency was in reporting Q17 (valuable information) as "important" or "very important" in their decision not to participate in the program (Appendix C).

Figure 4.12 Agreement on Reciprocity, Participants

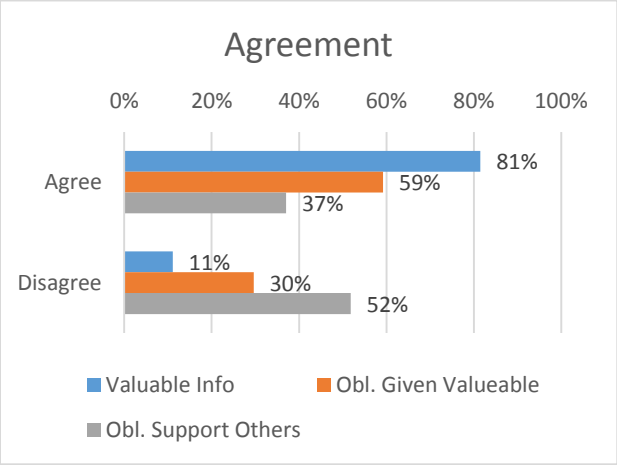
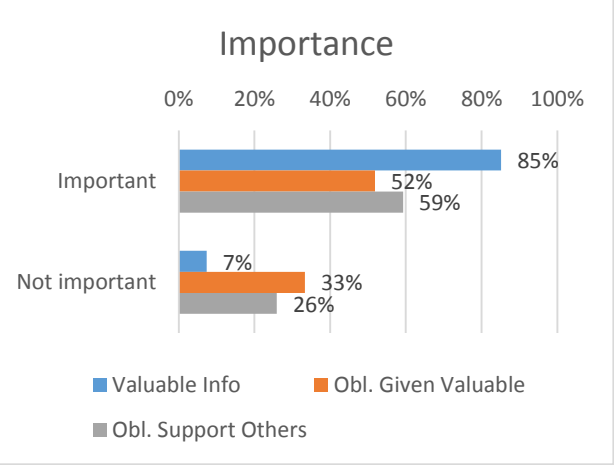


Figure 4.11 Importance of Reciprocity, Participants



Shared Worldview

The items of Shared Worldview include Question 15 and the individualism v solidarism short form scale based on Questions 29 through 34. Results for Question 15 are addressed here and results for the short form scale are addressed later in the report.

Question 15: Question 15 asks whether the organization addresses threats the landholder believes are important. Of the 27 participants, 96% "agree" with the item and 96% reported the item as "important" in their decision to participate in the program (Table 4.12, Figure 4.13, and Figure 4.14). The item has an agreement median of 3 ("agree") and an importance median of 2 ("important") (Table 4.12).

In contrast to the participants, the two non-participants who responded to the survey, both state they "disagree" or "strongly disagree" the organization addresses threats the landholder believes are important yet they report the item was "important" or "very important" in their decision not to work with the organization (Appendix C).

Figure 4.13 Agreement on Shared Worldview, Participants

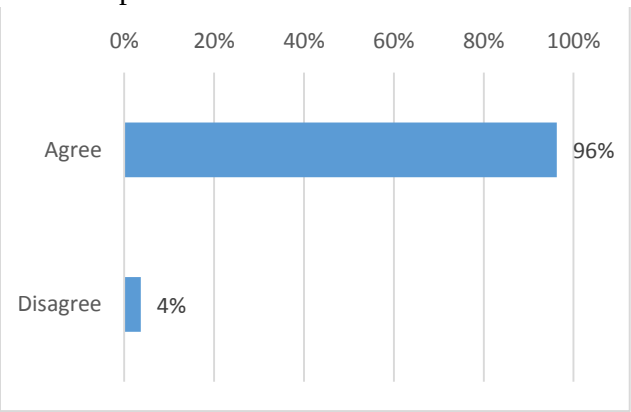
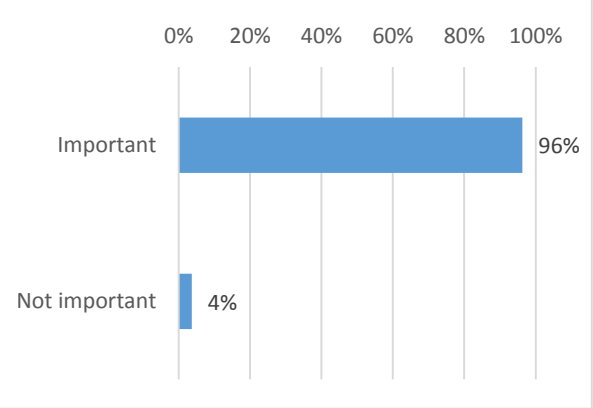


Figure 4.14 Importance of Shared Worldview, Participants



The items of Social Commitment include Questions 20 and 23. These items ask whether the landholder has confidence the organization will be available long-term and is committed to conservation for the long-term. Of the 27 participants, all survey respondents agree with both long-term commitment items and that these items were important in their decision to participate in the program (Table 4.12, Figure 4.15, and Figure 4.16). Both items have high agreement and importance, with the long-term commitment to conservation having the greatest agreement (median of 4, "strongly agree") and highest importance (median of 3, "very important") of any item for any construct (Table 4.12).

One of the two non-participants "agrees" and one "disagrees" with the item about the organization being available long-term to help resolve problems or answer questions (Appendix C). Nevertheless, both report that long-term availability was "important" in their decision not to participate. In regards to the organization's long-term commitment to conservation, one non-participant "agrees" but report it was "not important" in their decision. In contrast, the other non-

participant “strongly disagrees” that the organization has a long-term commitment to conservation and reports this as “very important” in their decision not to participate.

Figure 4.15 Agreement on Social Commitment, Participants

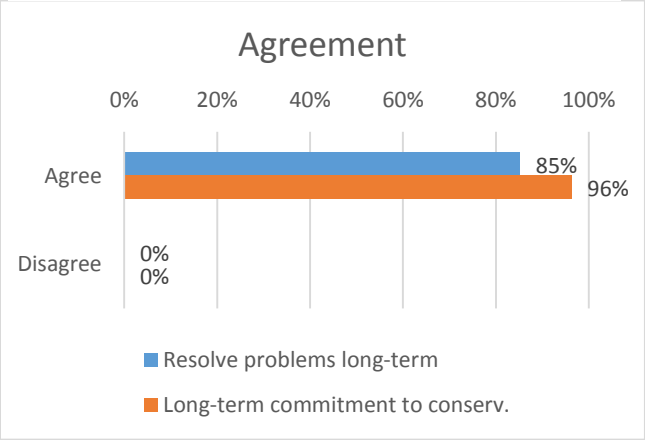
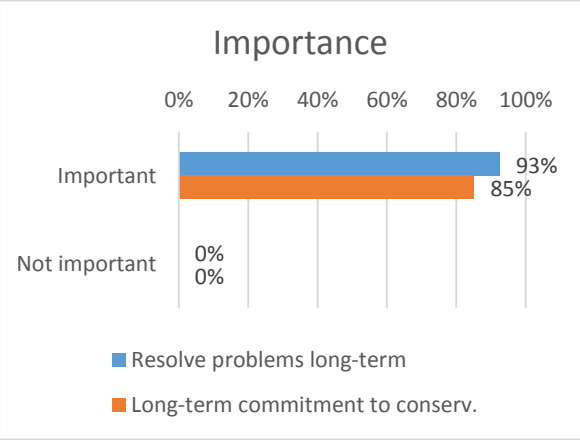


Figure 4.16 Importance of Social Commitment, Participants



Participation in Decision-Making

The items of Participation in Decision-Making include Questions 18, 19, and 27. These items address whether the landholder has opportunities to consider, provide input, and modify the agreement. Of the 27 participants, the majority “agree” that they had time to consider and had the opportunity to provide input. The majority of participants also report that both of these items were important in their decision to participate in the program (Table 4.12, Figure 4.17, and Figure 4.18). Slightly less than 50% of the participants believe they had an opportunity to modify the agreement in the future, and correspondingly, less participants feel this is as important as the other two items. All three items had strong agreement, yet having adequate time to consider the program has a slightly higher median (median of 3.5, “agree/strongly agree”). Having an opportunity for input is reported as the most important of the three items (median of 3, “very important”).

In contrast to the participants, the two non-participants who responded to the survey have varied agreement with the consideration and input items (Appendix C). However, similar to participants, both non-participants report having input was "important" or "very important" in their decision not to participate. Counter to participants, both non-participants disagree they can modify the agreement in the future and reported this as "important" and "very important" in their decision not to participate in the program.

Figure 4.17 Agreement on Participation in Decision-Making, Participants

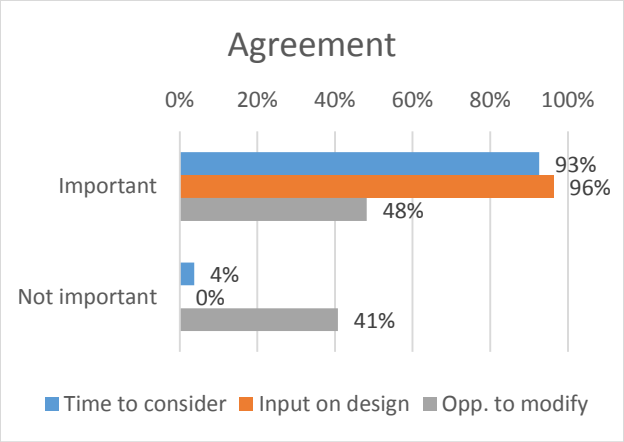
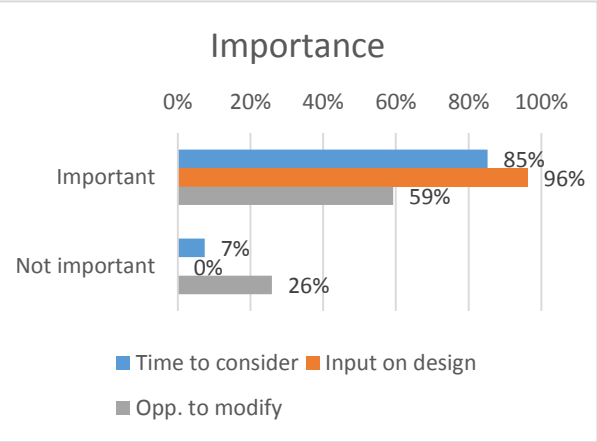


Figure 4.18 Importance of Participation in Decision-Making, Participants



Association between Constructs and Trust

The association between construct items and the trust index is determined using the Mann-Whitney U test. The test was used to identify if there is a difference between the mean trust score for those that agree and those that disagree with a construct item. Because only two non-participants responded to the survey, association is only tested for participant surveys. The researcher set the p-value threshold for the Mann-Whitney U test at <0.05. Results that meet this threshold can be interpreted as having a low probability that the association between the construct and a landholder's level of trust is due to chance. Due to the low sample size and low number of non-participants, results that do not meet this threshold but still have a relatively low

p-value (i.e. <0.10) can be interpreted as potentially having an association but a higher probability that this association may be due to chance.

The results are shown in Table 4.12. Only one construct item, Q17 for Reciprocity, has a two-tailed p-value below the 0.05 threshold. Question 17 asks if the organization provided valuable information to the landholder or someone they knew prior to them deciding to participate. This question has a mean rank for "agree" of 14.41 and a mean rank for "disagree" of 2.67, indicating those who agree have a higher level of trust than those who disagree.

Table 4.12 Association Between Construct Agreement and Trust, Participants

Construct (Agreement)	Question Number	Mean Rank Agree	Mean Rank Disagree	p-value (2-tailed)**
Personal Relationship	8	15.47	10.50	0.135
	22	13.31	12.09	0.689
Social Structure	9	14.50	1.00	0.093
	16	14.00	5.67	0.064
	21	11.58	13.50	0.573
	26	13.75	8.75	0.131
Reciprocity	**17**	**14.41**	**2.67**	**0.009**
	24	13.88	9.75	0.175
	25	14.70	10.93	0.195
Shared Worldview	15	13.77	20.00	0.438
Social Commitment	20	13.00	1.00	0.094
	23	13.50	0.00	*
Participation in Decision-Making	18	13.76	7.00	0.383
	19	13.50	0.00	*
	27	12.50	12.50	1.000

*not calculated, all participants agreed with the statement
**p-value <0.05

Association between Construct Importance and Agreement

The statistical association between construct importance and agreement is calculated to answer research question 2. Results are shown in Table 4.13. The researcher set the p-value threshold for the Fisher's exact test at <0.05. Results that meet this threshold can be interpreted

as having a low probability that the association between importance and agreement is due to chance. Due to the low sample size and low number of non-participants, results that do not meet this threshold but still have a relatively low p-value (i.e. <0.10) can be interpreted as potentially having an association but a higher probability that this association may be due to chance.

Test results indicate construct items of more importance to landholders. All 15 construct items have a median of important (either "slightly important," "important," or "very important"). However, six of these items have agreement and are associated with higher levels of importance (p-value < 0.05) for participants. Two additional questions cannot be tested using Fisher's exact test due to only one response category; yet, these questions have 100% of participants reporting the items as "important" and a median of "agree." All eight of these items are in bold and highlighted in light blue in Table 4.13. The items represent four constructs: Social Structure, Reciprocity, Social Commitment, and Participation in Decision-Making. The two items with thee the greatest reported importance (the organization's long-term commitment to conservation [Social Commitment] and the opportunity to have input on the design, work, or agreement [Participation in Decision-Making] are highlighted in dark blue.

Test results also indicate construct items of less importance to landholders. Three items with lower levels of importance ("slightly important") are associated with lower levels of agreement ("agree") or "disagree." These three items are shaded in grey in Table 4.13. These items represent Personal Relationships and Reciprocity.

Table 4.13 Association Between Construct Importance and Agreement, Participants

Construct	Question Number	Question Text	Agreement Median	Importance Median	Fisher's Exact Text (2-tailed)
Personal Relationships	8	I have a strong relationship with the conservation organization representative.	3	2	0.080
	22	A neighbor, friend, or family member recommended I work with the conservation organization.	2	1	0.006
Social Structure	**9**	**I believe the conservation organization or the organization's representative can offer expert advice.**	**3**	**2**	**0.037**
	16	**The conservation organization's representative can provide credible information on threats and opportunities that affect me.**	**3**	**2**	**0.010**
	21	**The conservation organization does not represent the government.**	**3**	**2**	**0.033**
	26	The conservation organization is affiliated with other groups I respect.	3	1	0.129
Reciprocity	**17**	**The conservation organization provided valuable information to me or someone I know prior to my deciding to work with them.**	**3**	**2**	**0.010**
	24	I feel obligated to give back to the conservation organization because it has given something valuable to me in the past.	3	1	0.000
	25	I feel obligated to work with the conservation organization because it has shown a history of supporting other groups or individuals I know.	2	1	0.007
Shared Worldview	15	The conservation organization's work addresses threats I believe are important.	3	2	1.000
Social Commitment	**20**	**I have confidence the conservation organization will be available long-term to help resolve problems or answer questions after the project is complete.**	**3**	**2**	*****
	23	**I believe the conservation organization has a long-term commitment to conservation.**	**4**	**3**	******
Participation in Decision-Making	18	There was adequate time to consider the program before I decided to participate.	3.5	2	1.000
	19	**I was given the opportunity to have input on the design/work/agreement.**	**3**	**3**	******
	27	**I will likely have the opportunity to modify the agreement or action in the future if needed.**	**3**	**2**	**0.019**

4 = strongly agree, 3 = agree, 2 = disagree, and 1 = strongly disagree
3 = very important, 2 = important, 1 = slightly important, and 0 = not important
*Fisher's exact not computed because Q20I constant (always "important")
**Fisher's exact not computed because Q23 and Q19 constant (always "agree" and "important")
lower levels of agreement/importance higher levels of agreement/importance highest levels of agreement/importance

Additional analysis was done to better understand the results for Question 8, the strength of the relationship between the landholder and the organization representative. Anecdotal comments as well as research findings suggest the strength of the relationship between the landholder and the organization representative is important to conservation opportunity, and the strength of the relationship is related to the number of years the representative has held their position. However, the survey results do not fully support these statements. The central tendency results show that participants give relatively high scores for the strength of the relationship and the importance of this relationship. The Fisher's exact test results show a low p-value (0.080) for the strength of the association between agreement and importance, suggesting a moderate probability for an association (Table 4.13). However, the probability is not high enough to generate a p-value that meets the statistical threshold of <0.05. In addition, there are individuals who do not believe they have a strong relationship with the representative in each program type, yet contrary to expectations, these individuals are not clustered with the representatives who are relatively new in their positions. The survey contains a question about the length of time the landholder knew the representative. Therefore, the Kruskal-Wallis H test is used to explore further by testing the association between trust index scores and number of years the individual has known the representative. Once again, the association between trust and the number of years the individual has known the representative has a low p-value (two-tailed p-value 0.369) yet not low enough to meet the <0.05 threshold.

Relative Importance of Trust

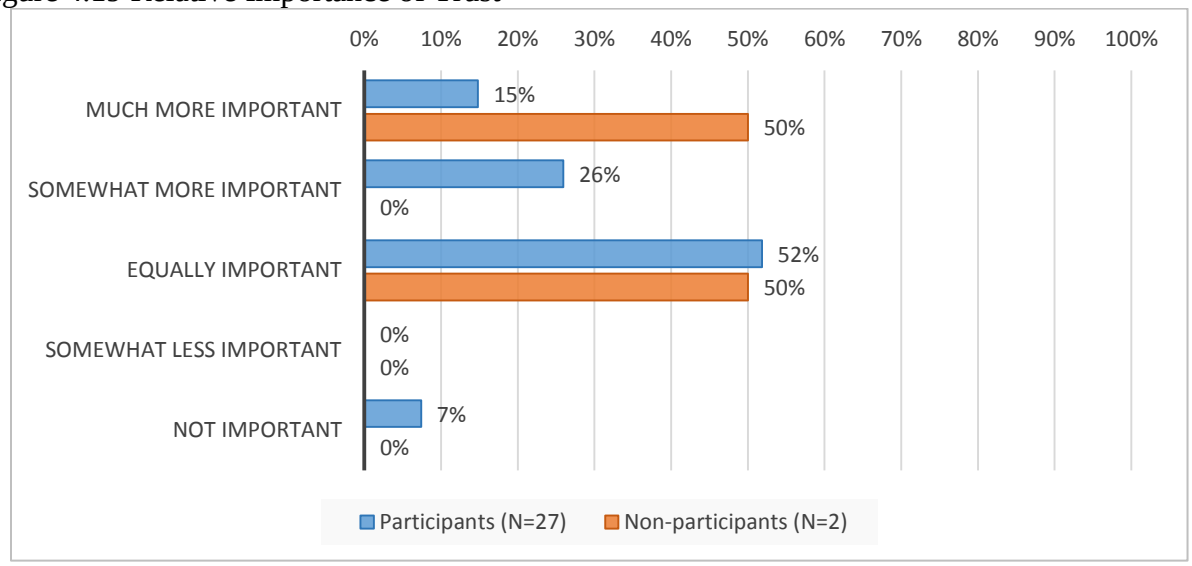
The relative importance of trust is calculated to help understand landholders' level of trust. The surveys show landholders believe trust is equally or more important than other factors

in conservation opportunity. When asked to compare trust to other factors that were important in their decision to participate or not participate, 93% of participants and 100% of non-participants rank trust as equally or more important (Figure 4.19, Table 4.14). Eleven (41%) of the participants and one (50%) of the non-participants indicate trust is somewhat more or much more important than the other factors. The median answer for participants is "equally important." No median exists for non-participants due to only two survey responses.

Table 4.14 Distribution Table - Relative Importance of Trust

Agreement	Participants (N=27)	Non-Participants (N=2)
Much more important	15%	50%
Somewhat more important	26%	0%
Equally important	52%	50%
Somewhat less important	0%	0%
Not important	7%	0%
Median	Equally important	N/A

Figure 4.19 Relative Importance of Trust



When asked to describe factors other than trust, the majority of respondents list constructs of trust. They specifically mention ideas consistent with Personal Relationship such as "my initial contacts with County River & Flood and Joel Ingram of Fish & Wildlife led me to

pertinent assistance with Darrell." Another example is "Knew Wayne, Chuck and Beth, they had previously been to my farm and were familiar with my farming methods." A few statements go beyond trust and were consistent with other structural and social factors. The most common non-trust factor mentioned is financial pressures (structural factor) as evident in the statements "scope of work done and financing provided by grant obtained by NSEA to do the work," "he convinced me that it was going to be a benefit to me and the salmon and wasn't going to cost me a bunch of $," and "financial incentive for participating in the CREP project." Many of the financial statements indicate an underlying willingness to conduct conservation activities as long as it does not cause personal financial strain. The second most common non-trust factor mentioned is attitudes (social factor) and includes statements such as "conservation," "native plant life," and "current and future protection of Dakota Creek which passes through my property, considering that future owners may not be as protective." A full list of answers is provided in Appendix D.

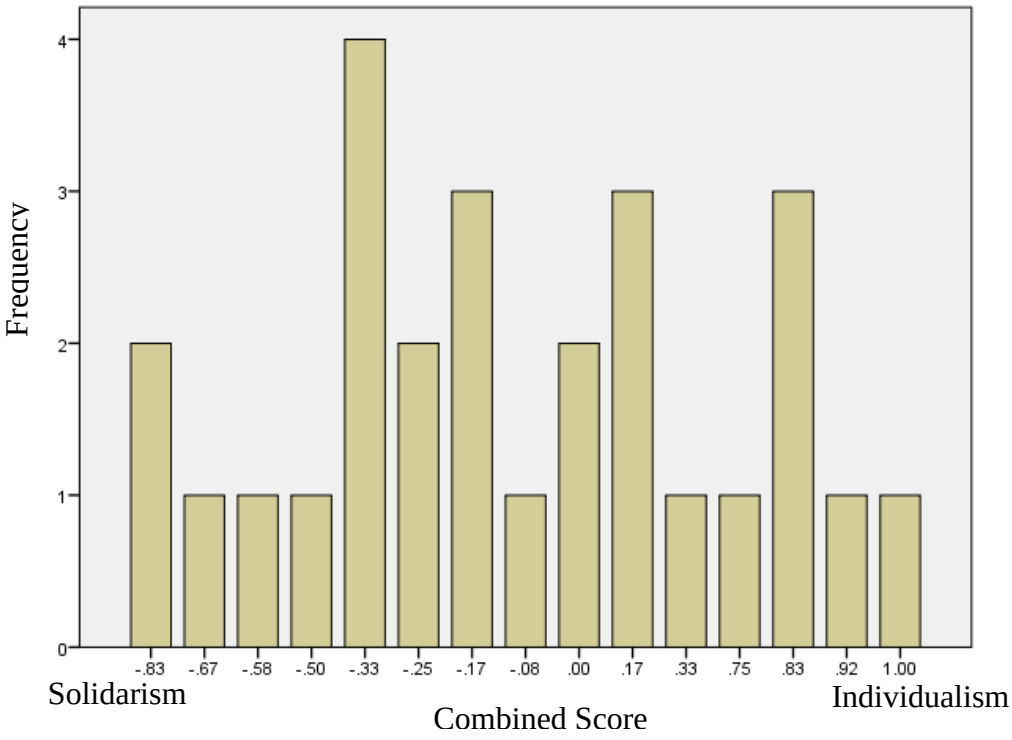
Shared Worldview Scale

The Shared Worldview scale is calculated to help answer research question 2. The Shared Worldview scale (Questions 29 through 34) has a scale ranging from -1 for strong solidarism to 1 for strong individualism (Table 4.15). The survey results show a scale mean close to neutral (0.01); however, the standard deviation is 0.55. This wide variation is also demonstrated by the frequency bar graph (Figure 4.20). When separated by program type (WLT, WCD, NSEA, and WC), the variation persists with means between -018 and 0.19 and standard deviation ≥0.44.

Table 4.15 Shared Worldview Central Tendency – Individualism v Solidarism

	Grand Total	WLT	WCD	NSEA	WC
N	27	8	8	10	1
Mean	0.01	-0.18	-0.08	0.19	N/A
Standard Deviation	0.55	0.55	0.44	0.62	N/A

Figure 4.20 Shared Worldview Frequency Distribution – Individualism v Solidarism



Actions to Increase Trust

Actions to increase trust are identified to answer research question 3. The survey includes a concluding, open-ended question asking if there is anything the organization can do to earn or increase their trust. The majority (15) report "no." Thirteen say "yes," with twelve providing suggestions, including the two non-participants. Four of these 12 survey respondents use the comment box to compliment the organization rather than suggest any areas for improvement.

Eight landholders have specific comments that include a desire for the organization to have long-term follow-through with on-the-ground work such as "Perhaps making twice yearly visits so as to ensure that the area is not being abused. I realize this costs them money but it would make me feel better once I am dead and buried and cannot check myself any longer." and "finish the job after 16 years and remove the plastic tree collars." The landholders also mention

providing better communication. For example, one landholder suggests “Better communication about size of groups entering the project on my property.” Others mention increasing opportunities for early input. Two landholders mention altering the organization’s governance such as “encouraging small farm operators and organic farmers to join the board” and “Develop and implement a consistent, clear strategy for land protection goals and objectives.” One landholder mentions “improve[ing] state code to bring land trust language into better compliance with national code and thereby authoriz[ing] land trust work in this state more clearly.” A complete list of recommendations is provided in Appendix D.

Chapter 5. Discussion and Conclusions

The goal of this thesis is to identify which constructs of trust are most important to the survey group in their decision to participate in the four voluntary conservation programs. This chapter will discuss the results described in Chapter 4, offer conclusions, propose implications for conservation organizations, outline the limitations of the research, and identify potential future research.

Discussion

The research was designed to understand the landholders' level of trust in the organization and to help answer three questions. First, are the constructs associated with trust as expected? Second, which constructs of trust are most important in a landholder's decision to participate in voluntary conservation programs? Third, what actions could these organizations take to improve trust?

Level of Trust

Internal consistency within and between direct and indirect measures of trust and central tendency (mean) are used to help understand the landholder's level of trust in the organization and the organization's representative. As shown by the internal consistency within the trust questions, the landholder's levels of reported trust in the organization and organization's representative are consistent and closely tied to the idea of achieving the landholder's goals. These results support Pannell's assertion that trust is strongly associated with the degree to which an individual, institution, or program respects and understands the landholder's goals (Pannell et al., 2006). Although there are only two non-participants, on average they do not trust the organization or organization representative and do not feel the organization understands and

addresses their goals. This contrasts with participants who, on average, trust the organization or organization representative and believe the organization understands and addresses their goals. The contrast supports the idea that trust may be easily eroded if a landholder perceives an entity or action is in conflict with their goals or local circumstances (Pannell et al., 2006), although greater sampling of non-participants are needed to confirm this assertion.

Answers to Question 4 and dispersion results from Question 5 are used to help understand how landholders view the relative importance of trust. When asked how important trust is relative to other factors, 93% of participants and both of the non-participants rank trust as equally or more important than the other factors. Considering that most of the "other" reported factors are also constructs of trust, trust may be even more important than depicted in Figure 4.19. Furthermore, although there are only two non-participants, in general, they lack trust yet feel trust items are important. Together, these findings emphasize that trust can potentially have a large influence on conservation opportunity. Trust may serve as a threshold for or necessary precursor to conservation opportunity. The results also reinforce the suggestion that organizations must understand trust and incorporate trust-building into their conservation efforts to achieve long-term sustainability and equitability of environmental change (Pretty & Ward, 2001). Financial pressure (structural factor) is the second most commonly-reported factor after trust, consistent with past research showing financial considerations are very influential in conservation opportunity (Griliches, 1957, 1960; Havens & Rogers, 1961; Newby et al., 1977).

Answers to the open-ended Question 4 is used to help confirm a common definition of trust. When asked to provide factors other than trust that influenced their decision, most mentioned constructs of trust. Most commonly, landholders mentioned items related to the construct of Personal Relationships. Because a landholder may have their own definition of trust,

directly asking an individual whether they trust an organization or representative may not be as instructive or consistent as asking them about trust constructs.

Research Question 1: Are the Constructs Associated with Trust as Expected?

If a construct is a building block of trust, you would expect participants who agree with a construct item to also have a higher trust score. As expected, central tendency and dispersion results show participants agree with all construct measurements and have trust. Although the sample size is too small to provide conclusive evidence, the two non-participants results are also as expected. They often disagree with the construct measurements and have a lower trust score, as is expected if trust influences their decision to participate.

In addition to central tendency and dispersion results, when testing the association between the measurements and trust, all but one measurement have mean ranks as expected with participants having a mean agree rank higher than the mean disagree rank. Yet only one measurement had a p-value that met the threshold of <0.05 for its association with the trust index. The one measurement with a statistical association is Question 17 (Reciprocity) regarding the organization's history of providing valuable information. As described below, while other measurements may have an association with trust, this measurement is one of the few with both high agreement and high importance and a high probability of association, suggesting it is one of the more influential measurements in determining conservation opportunity. The association also supports the more narrow definition of trust as an exchange (Marshall, 2004). However, the higher p-values for the other measurements may be partly due to the small overall sample size and the small number of "disagree" answers. A larger sample size and one that includes more non-participants may strengthen the ability to detect associations between trust and other constructs.

Research Question 2: Which are the Most Important Constructs?

The second research question asks which constructs of trust are most important in a landholder's decision to participate in voluntary conservation programs. While the non-participant sample size was too small to test the statistical difference between actual participation decisions, the results still yield valuable information about landholders' perceptions of participation decisions. In addition, while only one construct item has a statistical association with trust, the results show what items are important to landholders and conservation opportunity, regardless of their ability to measure trust.

Central tendency and dispersion results distinguish two items being reported as more important than the others: the organization's long-term commitment to conservation (Social Commitment) and the opportunity to have input on the design, work, or agreement (Participation in Decision-Making). Four items are also reported as relatively less important: recommendation from a friend, neighbor, or family member (Personal Relationships), affiliation with other groups (Social Structure), and both measurements about the obligation to reciprocate due to receiving something of value or affiliation (Reciprocity). The rest of the items fall in the middle of these two groups with moderate agreement and moderate importance. The two non-participants differed from participants in two notable areas. Their responses suggest non-participation may be the result of some landholder's viewing future flexibility in the agreement and disassociation with the government as more important than other landholders. Interestingly, the two non-participants had declined working with the WLT and WCD, two programs with less obvious government affiliation than the PDR program. Another explanation could be that the participants believed disassociation with government was just as important as non-participants, yet did not

associate the programs with governmental agencies or government funding as readily as non-participants.

If landholders view items as important in their decision to participate, one would expect those who participated to indicate they agree with items they view as important. One would also expect participants to only disagree with a statement if they believed the measurement was of low importance. When importance was tested for association with agreement, participant results support the expectations. Furthermore, the results from the two non-participants provide further support. The non-participants indicate they generally agree with participants on the items of most importance, yet they did not consistently agree the items were present. This is understandable considering they decided not to participate.

Respondents report Shared Worldview as important in influencing participation for Question 15, the view that the organization addresses threats the landholder believes are important. While worldview has been shown to predict policy positions on environmental issues, crime control issues, and economic regulatory issues; the individualism/solidarism short form scale results do not support the prediction that participants would trend more toward a solidarism view. The researcher tested whether the lack of solidarism dominance could be explained by financial incentives offered by the CREP and PDR that may be attractive to individualists. However, the individualism/solidarism scale was not able to distinguish between programs either. Therefore, although research has shown worldview to predict many environmental policy positions, landholders who participated in these voluntary conservation programs show wide variation on the individualism/solidarism scale. This suggests the programs are available and palatable to diverse sectors of society and participation is likely determined by other more influential factors.

Another interesting finding associated with Shared Worldview involves the landholder's views about the conservation organization. When asked what they believe about the organization's worldview, most landholders marked "don't know." This may indicate the questions are not phrased in a way that makes sense when applied to an organization. However, it may also suggest that, counter to what research suggests, perhaps the landholder does not care whether their worldview is consistent with the organization's worldview as much as they care about other factors.

Research Question 3: What Actions Can Improve Trust?

The third research question asks what actions could these organizations take to improve trust? The researcher coded answers to the open-ended Question 28 to answer this third research question.

Slightly less than half of the survey respondents indicated in Question 28 that they believe the organization can take actions that would improve their trust in the organization. Only approximately one quarter of the survey respondents offer specific suggestions for actions, perhaps due to the exact conundrum addressed by this thesis: the difficulty in defining, understanding, and improving trust. However, both participants and non-participants offer suggestions. Although limited in number, the suggested actions can provide insight on possible ways organizations can build trust. The most common suggestions relate to long-term follow-through with on-the-ground work such as "making twice yearly visits" and "finish the job." These actions require an organization have methods to ensure retention and communication of project history, commitments, and management expectations. It also demands organizations clearly articulate long-term maintenance expectations at the start of the project so landholders do not have unrealistic expectations. Improved communication was another common suggestion.

Specifically, landholders mention the need for clarity on who and how many individuals would access their property. This requires organizations clearly articulate project details such as construction schedules, personnel, and long-term maintenance plans. Others mention increasing opportunities for early input. As described above, one landholder mentions encouraging farmers to join the board. Others suggest creating better consistency in "trust language" between state and federal codes. This requires organizations to be aware of and active in rule-making. Considering the majority of respondents believe the lack of government affiliation is important, it is possible not all landholders agree with this last suggestion.

Limitations

The research is exploratory. Findings describe the survey group and caution should be used if extending the findings outside the Pacific Northwest. Nevertheless, the findings have the potential to help conservation organizations within the Pacific Northwest build trust with landholders and increase landholder enrollment in conservation programs. Future studies may be able to extend results to the general population if they use random sampling and increase the sample size.

The research results also emphasize participant responses. While the participants' results identified constructs and items that are important in building trust; it would be instructive to know how their results compare with those who chose not to participate. The differences between these two populations could confirm whether landholder perceptions are consistent with actual decisions.

In addition, research findings are limited to construct items rather than a trust index. Because the constructs are poorly defined in the literature and the survey attempts to address all

constructs, the survey uses only a small number of questions (<5) for each construct. Developing an index may require more questions, confirmation that the questions describe a unidimensional construct, and additional scrutiny of relationships between among the items (Babbie, 1973).

Finally, the agreement and importance questions were designed to mirror each other to make the questions easy to understand and reduce the time needed to take the survey. However, the agreement and importance questions did not have equivalent category distribution (number of agree categories vs number of importance categories). If the respondent assumed they had equivalent distribution, this disparity may have slightly skewed the results of either the agreement or importance responses. Survey accuracy may be increased if the Likert agreement and importance questions had equivalent category distribution (number of agree categories vs number of importance categories). At a minimum, equal category distribution would facilitate comparisons between bar charts without converting the responses to nominal categories (agree/important v disagree/not important).

Conclusions

The research results suggest six primary findings. First, survey respondents report trust as equally or more important than other factors in determining conservation opportunity. The most commonly cited non-trust factor was financial pressures, a structural factor. Second, not all individuals have a uniform definition of trust, yet trust is strongly associated with the degree to which an individual, institution, or program respects and understands the landholder's goals. Third, regardless of the definition of trust or whether the items are associated with trust, some construct items are reported as more important than others in their decision to participate in conservation programs.

The constructs reported as most important in determining conservation opportunity within the study group are Social Commitment and Participation in Decision-Making (Table 5.1). Specifically, the organization's long-term commitment to conservation and the organization allowing the opportunity for the landholder to have input on the design, work, or agreement. This result is consistent with research on the structural factors of governance, which shows that a program structure that allows landholder participation is important in determining landholder participation (Pannell et al., 2006; Raedeke et al., 2001). The constructs reported as least important are items related to affiliation with other groups or individuals and items related to obligation. These measurement are dispersed amongst different constructs including Personal Relationships, Social Structure, and Reciprocity. While non-participants' answers differ slightly (at least one believe these measurements are "very important" yet disagree), their results further support these measurements as poor indicators of conservation opportunity. The findings suggest affiliation and obligation may not be appropriate items and may need to be eliminated from the constructs, or at least considered separately as their own constructs. The remaining constructs are reported as moderate importance and; therefore, likely of moderate influence.

Table 5.1 Trust Items Reported as Most Important

Construct	Item
Reported As Most Important	
Social Commitment	I believe the organization has a long-term commitment to conservation.
Participation in Decision-Making	I was given the opportunity to have input on the design/work/agreement.
Reported As Moderately Important	
Personal Relationships	I have a strong relationship with the conservation organization representative.
Social Structure	I believe the conservation organization or the organization's representative can offer expert advice.
	The conservation organization's representative can provide credible information on threats and opportunities that affect me.
	The conservation organization does not represent the government.
Reciprocity	The conservation organization provided valuable information to me or someone I know prior to my deciding to work with them.
Shared Worldview	The conservation organization's work addresses threats I believe are important.
Social Commitment	I have confidence the conservation organization will be available long-term to help resolve problems or answer questions after the project is complete.
Participation in Decision-Making	There was adequate time to consider the program before I decided to participate.
	I will likely have the opportunity to modify the agreement or action in the future if needed.
Reported As Least Important – potentially re-consider as measurement	
Personal Relationship*	A neighbor, friend, or family member recommended I work with the conservation organization
Social Structure*	The conservation organization is affiliated with other groups I respect.
Reciprocity*	I feel obligated to give back to the conservation organization because it has given something valuable to me in the past.
	I feel obligated to work with the conservation organization because it has shown a history of supporting other groups or individuals I know.

*construct may not be appropriate as written in this study

Fourth, while the landholder's relationship with the organization's representative is important, it is not reported as the most influential construct item. In addition, and surprisingly, a landholder's level of trust is not associated with the number of years the landholder has known the representative. Fifth, the shared worldview scale may not be a predictor for who participates and what program they will participate in. Instead, participating landholders have a wide variety of worldviews and they may not care about whether their worldview is consistent with the organization's worldview as much as they care about other factors.

Finally, landholders believe the conservation organizations have the opportunity to earn or increase trust, even those who chose not to participate in their conservation program. Suggested actions to increase trust varied but included providing long-term on-the-ground work, improved communication, additional opportunities for landholder input, changes to the organization's governance, and effort to change state policy.

Implications for Conservation Organizations

The research results offer many findings that have the potential to improve conservation organizations' ability to enroll landholders in their conservation programs. Because respondents identify trust as equally or more important than other factors in a their decision to participate, staff and board members are likely to be more effective at increasing landholder willingness if they attempt to understand trust and incorporate trust-building into their programs. Landholders identified financial pressures as the most important non-trust factor. Therefore, programs that can both build trust and offer financial assistance may see the greatest participation.

When attempting to build trust with landholders, the organization is likely to be more effective if they focus on the organization's long-term commitment to conservation, one of the two most important trust constructs. While affiliation and obligation may be important in fundraising, these efforts are unlikely to gain the participation of landholders that are needed for on-the-ground action. Instead, for landholder participation, an organization's time might be better spent demonstrating consistent and sustainable conservation efforts rather than forming alliances with other organizations or giving away materials and promotional items.

In addition, an organization is expected to have the potential to build trust with landholders if they focus on increasing opportunities for landholder participation, the second of

the two most important trust constructs. Similarly, non-participants felt modifying the agreement in the future was not possible and was important in their decision not to participate; therefore, additional participation might be gained if an organization can provide flexibility to allow the project or agreement to adapt to changing circumstances.

Long-term follow-through with on-the-ground actions is also important in demonstrating long-term commitment. Long-term follow-though requires an organization have methods to ensure retention and communication of project history, commitments, and management expectations despite turn-over in staff or land ownership. A landholder's belief that an organization provides long-term follow-through also means the organization must clearly articulate long-term maintenance expectations at the start of the project to avoid unrealistic expectations.

Survey responses also suggest organizations can build trust through improved communication. Specifically, landholders mention the need for clarity on who and how many individuals would access their property. This requires organizations clearly articulate project details such as construction schedules, personnel, and long-term maintenance plans. If organizations currently rely on verbal agreements, perhaps creating simple written agreements that outline these finer details will minimize future frustration and misunderstandings.

Furthermore, reciprocity is an important component of building trust. Financial contributions are commonly offered in exchange for conservation actions, as seen in PDR programs, CREP programs, and WDFW's Waterfowl Quality Hunt Program. However, the results also suggest there are other forms of exchange that may be equally if not more effective. Research results show exchange of information is important to landowners, including information on threats and opportunities. Additional research is needed to determine the

importance of this type of non-monetary exchange relative to monetary exchanges such as financial incentives and on-the-ground improvements.

A landholder's trust in the organization is also associated with their trust in the representative. Contrary to anecdotal information, survey results suggest the length of time the landholder has known the representative is not as important as their ability to provide information on threats and opportunities that are important to the landholder. Consequently, organizations may be able to proceed with succession planning without grave concern over losing landholder willingness. They can potentially mitigate the loss of long-term staff if they hire individuals that are experienced, are comfortable sharing their knowledge, and are well versed in the practical concerns of rural landholders.

Finally, because the Shared Worldview scale may not be a predictor for who participates and what program they will participate in, a conservation organization may have the opportunity to reach a broader landholder base than they may have previously assumed. In other words, someone who is willing to participate in conservation actions may not conform to the stereotype of an "environmentalist." Instead, a conservation organization might increase participation in their program if they view landholders as individuals and conduct outreach to understand landholders' unique needs, goals, and levels of acceptable risk. The research results also suggest a conservation organization can have a worldview that is different than a landholder's worldview while still exploring what the organization can offer that may be of value to the landholder. This expanded view of a potential conservation participant supports WDFW's efforts to view recreation as one path to conservation. Hunting may be one way to build trust with landholders and may eventually lead to conservation actions.

Future Research

Future research could further explore and refine the constructs with the goal of developing indices. Of particular interest are the two construct items with the highest importance: long-term commitment to conservation and the opportunity for input on the design, work, or agreement. Additionally, future research could attempt to discern whether affiliation and obligation questions should be removed as construct items or reorganized into separate construct categories.

Future research could also test differences in trust between program types. For example, the importance of trust and the relative importance of trust constructs may differ between governmental and non-governmental programs. Of the four programs included in this study, the Whatcom County PDR program was the only program administered by a typical government agency and it only had one survey respondent. Additional responses from the PDR program or other governmental program such as WDFW's Waterfowl Quality Hunt Program may provide a sufficient sample size to test differences between governmental and non-governmental programs. The Waterfowl Quality Hunt Program is relatively new, yet, at the time of this report, WDFW lists 24 privately-owned sites enrolled in the Nooksack Watershed. Surveying participants of the Waterfowl Quality Hunt Program also allows the opportunity to test differences between recreation and non-recreation programs and explore whether recreation can build trust that leads to supplemental conservation efforts.

Additional insight may be gained by increasing the numbers of non-participant and overall participant responses. Greater numbers of non-participant responses may allow detection of more associations between construct items and trust. Additional non-participant responses may also facilitate improved understanding about what constitutes governmental affiliation and

whether this factor is more important to non-participants or just a difference in perception. Finally, additional non-participant responses may be used to test the actual rather than perceived impact on conservation opportunity. The two non-participant responses suggest how participants and non-participants may differ, yet the sample size was too low to perform most statistical analyses.

Future research may be able to increase response rates for non-participants with a random sampling of all eligible participants. This sampling strategy; however, would need to account for inaccuracies if respondents are answering theoretically rather than based on real decisions. Alternatively, if sampling selectively, the challenge is finding contact information and encouraging responses from non-participants.

Researchers could attempt to increase overall response rates with the goal of clarifying associations. The researchers could perform a power analysis on the existing sample set to determine what sample size would be needed to detect an association that met the p-value threshold. If the study achieved this sample size, the researcher could re-test for associations. In addition, the increased sample size may allow the researcher to use tests with greater statistical power.

Researchers may be able to increase response rates through changes in survey distribution, supplemental mailings, and survey length. Considering the response rate for the current research was much higher for online surveys compared to mailed paper surveys, the researcher may improve response rates if they attempt to perform the survey entirely online with more concerted efforts at finding email contact information. The researcher may also increase response rates if they mail the supplemental mailings rather than the program. This direct mailing has the potential to facilitate greater survey participation from landholders who ignored

the survey due to negative feelings about the conservation organization. Direct mailing would also reduce any bias toward landholders with positive relationships with the organization and organization representative. In addition to using online surveys and direct mailing, response rates may be increased through reducing survey length. The survey could address only a few constructs to help narrow the focus and reduce survey length. Finally, perhaps the online survey could be supplemented with interviews if the researcher felt the online survey was biased toward younger, technologically savvy landholders. Interviews may also allow the researcher to follow a respondent's line of reasoning. Qualitative analysis of the interviews may deepen the understanding of trust and how it is both gained and lost.

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Appendix A - Human Subjects Research Approval

WESTERN WASHINGTON UNIVERSITY
Office of Research and Sponsored Programs

MEMORANDUM

TO: Analiese Burns, Environmental Studies

FROM: Janai Symons, Office of Research and Sponsored Programs

DATE: 9/22/2016

SUBJECT: Institutional Review Board– Exemption Research Approval

Thank you for submitting a research protocol regarding your human subject research EX17-017 "Trust factors influencing conservation opportunity on private lane" for review by the Institutional Review Board (IRB).

Approval: The IRB has reviewed the materials you submitted and found the project described falls into Category #2: research involving survey or interview procedures. Although the research qualifies for exempt status, the investigators still have a responsibility to protect the rights and welfare of their subjects, and are expected to conduct their research in accordance with the ethical principles of Justice, Beneficence, and Respect for Persons, as described in the Belmont Report, as well as with state and local institutional policy. All students and investigators collecting or analyzing data must be qualified and appropriately trained in research methods and responsible conduct of research.

Determination Period: An exempt determination is valid for five years from the date of the determination, as long as the nature of the research activity remains the same. If the involvement of human subjects changes over the course of the study in a way that would increase risks, please submit a revised protocol.

Problems: If issues should arise during the conduct of the research, such as unanticipated problems that may increase the risk to the human subjects or change the category of review, notify the Research Compliance Officer promptly. Any complaints from subjects pertaining to the risk and benefits of the research must be reported to the Research Compliance Officer.

If you have any questions, feel free to email me at janai.symons@wwu.edu.

Appendix B - Survey Instrument, Participant Survey

WESTERN
WASHINGTON UNIVERSITY

Permit # EX17-017

INFORMED CONSENT

Purpose and Benefit
Researchers have been interested in the role trust plays in a landholder's decision to engage in conservation actions. The purpose of the research is to identify what dimensions of trust most influence landholder willingness to participate in voluntary conservation programs.

Benefits of the research are: greater understanding of landholders' perceived presence of trust dimensions, relative importance of these trust dimensions, and opportunities to increase trust.

I Understand That:
1) This experiment will involve completion of a survey. My participation will involve approximately 15 minutes.
2) There are no anticipated risks or discomfort associated with participation.
3) One possible benefit to me may be conservation programs improving their practices to earn landholder trust.
4) My participation is voluntary, I may choose to withdraw from participation at any time without penalty.
5) All information is confidential. Conservation programs will mail surveys directly to landowners. The researcher will not have access to landowner addresses. Responses will be returned directly to the researcher and the conservation program will not have access to the individual survey responses. My signed consent form will be kept in a locked file separate from the survey. Only the primary researcher will read and analyze the survey responses. My name will not be associated with the research in general or any of my responses at any time.
6) My signature on this form does not waive my legal rights of protection.
7) This study is conducted by Masters Candidate Analiese Burns under advisement of Dr. Grace Wang. Any questions that you have about the experiment or your participation may be directed to the researcher at cunnina4@wwu.edu or to Dr. Wang at Grace.Wang@wwu.edu or (360) 650-3278.

If you have any questions about your participation or your rights as a research participant, you can contact the WWU Human Protections Administrator (HPA), (360) 650-3220. If during or after participation in this study you suffer from any adverse effects as a result of participation, please notify the researcher directing the study or the Research Compliance Officer. The Research Compliance Officer can be reached by phone at (360) 650-3082 or email at Janai.Symons@wwu.edu.

I have read and agree to participate in this study.

_____ _____
Participant's Signature Date

_____
Participant's PRINTED NAME

Thank you for taking the time to share your thoughts about your decision to work with the Nooksack Salmon Enhancement Association (NSEA). We understand there are many reasons why you made your decision. This study only explores one reason, trust. The purpose of the research is to identify what dimensions of trust most influence landholder willingness to participate in voluntary conservation programs. While we are interested in trust, we undersand trust may not have been the most important factor for you.

Please only complete one survey per household. Answers should be selected by the person responsible for making land use decisions. Please mail the survey back in the enclosed pre-paid envelope by November 15, 2016.

Thank you for your time!

LANDOWNER SURVEY

SECTION 1

1. Please enter your individual ID code:

_____

2. Approximately how long have you known the Nooksack Salmon Enhancement Association's (NSEA's) representative (the person with whom you had the most interaction)?

__ > 10 years
__ 5 – 10 years
__ 1 – 4 years
__ < 1 year

3. Did you choose NSEA rather than working with another organization?

__ No
__ Yes, (please name the other organization and briefly describe why you chose NSEA instead)

4. There may be many reasons why you decided to work with NSEA. What were the two most important reasons for you?

5. How important was trust compared to the reasons listed in Question 4, above? (trust in NSEA and/or WLT representative)

__ much more important
__ somewhat more important
__ equally important
__ somewhat less important
__ not important

SECTION 2

The remainder of this survey is about trust. Although we are interested in trust, we understand trust may not have been the most important factor for you.Please indicate to what extent you agree with these statements and their level of importance.

	To what extent do you agree with this statement?	**How important is this attribute in your decision to work with NSEA?**
6. I trust NSEA.		
	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

7. I trust NSEA's representative (the person you primarily interacted with).

	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

	To what extent do you agree with this statement?	How important is this attribute in your decision to work with NSEA?
8. I have a strong relationship with the NSEA representative.		
	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

9. I believe NSEA or the NSEA representative can offer expert advice.

__ strongly agree
__ agree
__ disagree
__ strongly disagree

__ very important
__ important
__ slightly important
__ not important

If you wish, describe in more detail (optional):

10. NSEA understands my needs and goals.

__ strongly agree
__ agree
__ disagree
__ strongly disagree
__ do not know

__ very important
__ important
__ slightly important
__ not important

If you wish, describe in more detail (optional):

11. NSEA cares about my needs and goals.

__ strongly agree
__ agree
__ disagree
__ strongly disagree
__ do not know

__ very important
__ important
__ slightly important
__ not important

If you wish, describe in more detail (optional):

12. The NSEA representative understands my needs and goals.

__ strongly agree
__ agree
__ disagree
__ strongly disagree
__ do not know

__ very important
__ important
__ slightly important
__ not important

If you wish, describe in more detail (optional):

	To what extent do you agree with this statement?	How important is this attribute in your decision to work with NSEA?
13. The NSEA representative cares about my needs and goals.		
	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important
	__ do not know	

If you wish, describe in more detail (optional):

14. In general, NSEA's goals are consistent with my goals.

	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

15. NSEA's work addresses threats I believe are important.

	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

16.The NSEA's representative can provide credible information on threats and opportunties that affect me.

	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

17. NSEA provided valuable information to me or someone I know prior to my deciding to workwith them.

	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

18. There was adequate time to consider the program before I decided to participate.

	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

	To what extent do you agree with this statement?	How important is this attribute in your decision to work with NSEA?
19. I was given the opportunity to have input on the design/work/agreement.		
	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

20. I have confidence NSEA will be available long-term to help resolve problems or answer questions after the project is complete.

__ strongly agree	__ very important
__ agree	__ important
__ disagree	__ slightly important
__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

21. NSEA does not represent the government.

__ strongly agree	__ very important
__ agree	__ important
__ disagree	__ slightly important
__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

22. A neighbor, friend, or family member recommended I work with NSEA.

__ strongly agree	__ very important
__ agree	__ important
__ disagree	__ slightly important
__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

23. I believe NSEA has a long-term commitment to conservation.

__ strongly agree	__ very important
__ agree	__ important
__ disagree	__ slightly important
__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

24. I feel obligated to give back to NSEA because it has given something valuable to me in the past.

__ strongly agree	__ very important
__ agree	__ important
__ disagree	__ slightly important
__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

	To what extent do you agree with this statement?	How important is this attribute in your decision to work with NSEA?
25. I feel obligated to work with NSEA because it has shown a history of supporting other groups or individuals I know.		
	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

26. NSEA is affiliated with other groups I respect.

__ strongly agree
__ agree
__ disagree
__ strongly disagree

__ very important
__ important
__ slightly important
__ not important

If you wish, describe in more detail (optional):

27. I will likely have the opportunity to modify the agreement or action in the future if needed.

__ strongly agree
__ agree
__ disagree
__ strongly disagree

__ very important
__ important
__ slightly important
__ not important

If you wish, describe in more detail (optional):

28. Could NSEA do anything to earn or increase your trust?

__ No
__ Yes

If you answered yes, please describe:

SECTION 3

Sometimes willingness/ability to trust is related to a person's worldview. The following questions relate to your worldview on people making decisions for themselves. Please indicate to what extent YOU agree and to what extent you believe the NSEA supports these statements as they relate to decisions about land use.

	To what extent do YOU agree with this statement?	**To what extent do you believe NSEA supports this statement?**
29. The government interferes far too much in our everyday lives.		
	__ strongly agree __ agree __ disagree __ strongly disagree	__ strongly agree __ agree __ don't know __ disagree __ strongly disagree
30. Sometimes government needs to make laws that keep people from hurting themselves.		
	__ strongly agree __ agree __ disagree __ strongly disagree	__ strongly agree __ agree __ don't know __ disagree __ strongly disagree
31. It's not the government's business to try to protect people from themselves.		
	__ strongly agree __ agree __ disagree __ strongly disagree	__ strongly agree __ agree __ don't know __ disagree __ strongly disagree
32. The government should stop telling people how to live their lives.		
	__ strongly agree __ agree __ disagree __ strongly disagree	__ strongly agree __ agree __ don't know __ disagree __ strongly disagree
33. The government should do more to advance society's goals, even if that means limiting the freedom and choices of individuals.		
	__ strongly agree __ agree __ disagree __ strongly disagree	__ strongly agree __ agree __ don't know __ disagree __ strongly disagree
34. Government should put limits on the choices individuals can make so they don't get in the way of what's good for society.		
	__ strongly agree __ agree __ disagree __ strongly disagree	__ strongly agree __ agree __ don't know __ disagree __ strongly disagree

Thank you for your time! If you would like a copy of the findings, please contact me at cunnina4@wwu.edu or contact Dr. Grace Wang at Grace.Wang@wwu.edu or (360) 650-3278.

Appendix B - Survey Instrument, Non-participant Survey

Permit # EX17-017

INFORMED CONSENT

Purpose and Benefit
Researchers have been interested in the role trust plays in a landholder's decision to engage in conservation actions. The purpose of the research is to identify what dimensions of trust most influence landholder willingness to participate in voluntary conservation programs.

Benefits of the research are: greater understanding of landholders' perceived presence of trust dimensions, relative importance of these trust dimensions, and opportunities to increase trust.

I Understand That:
1) This experiment will involve completion of a survey. My participation will involve approximately 15 minutes.
2) There are no anticipated risks or discomfort associated with participation.
3) One possible benefit to me may be conservation programs improving their practices to earn landholder trust.
4) My participation is voluntary, I may choose to withdraw from participation at any time without penalty.
5) All information is confidential. Conservation programs will mail surveys directly to landowners. The researcher will not have access to landowner addresses. Responses will be returned directly to the researcher and the conservation program will not have access to the individual survey responses. My signed consent form will be kept in a locked file separate from the survey. Only the primary researcher will read and analyze the survey responses. My name will not be associated with the research in general or any of my responses at any time.
6) My signature on this form does not waive my legal rights of protection.
7) This study is conducted by Masters Candidate Analiese Burns under advisement of Dr. Grace Wang. Any questions that you have about the experiment or your participation may be directed to the researcher at cunnina4@wwu.edu or to Dr. Wang at Grace.Wang@wwu.edu or (360) 650-3278.

If you have any questions about your participation or your rights as a research participant, you can contact the WWU Human Protections Administrator (HPA), (360) 650-3220. If during or after participation in this study you suffer from any adverse effects as a result of participation, please notify the researcher directing the study or the Research Compliance Officer. The Research Compliance Officer can be reached by phone at (360) 650-3082 or email at Janai.Symons@wwu.edu.

I have read and agree to participate in this study.

_____ _____
Participant's Signature Date

_____
Participant's PRINTED NAME

Thank you for taking the time to share your thoughts about your decision not to work with the Nooksack Salmon Enhancement Association (NSEA). We understand there are many reasons why you made your decision. This study only explores one reason, trust. The purpose of the research is to identify what dimensions of trust most influence landholder willingness to participate in voluntary conservation programs. While we are interested in trust, we undersand trust may not have been the most important factor for you.

Please only complete one survey per household. Answers should be selected by the person responsible for making land use decisions. Please mail the survey back in the enclosed pre-paid envelope by November 15, 2016.

Thank you for your time!

LANDOWNER SURVEY

SECTION 1

1. Please enter your individual ID code:

_____

2. Approximately how long have you known the Nooksack Salmon Enhancement Association's (NSEA's) representative (the person with whom you had the most interaction)?

__ > 10 years
__ 5 – 10 years
__ 1 – 4 years
__ < 1 year

3. Did you choose another organization rather than working with NSEA?

__ No
__ Yes, (please name the other organization and briefly describe why you chose them instead)

4. There may be many reasons why you decided not to work with NSEA. What were the two most important reasons for you?

5. How important was trust compared to the reasons listed in Question 4, above? (trust in NSEA and/or WLT representative)

__ much more important
__ somewhat more important
__ equally important
__ somewhat less important
__ not important

SECTION 2

The remainder of this survey is about trust. Although we are interested in trust, we understand trust may not have been the most important factor for you.Please indicate to what extent you agree with these statements and their level of importance.

	To what extent do you agree with this statement?	**How important is this attribute in your decision not to work with NSEA?**
6. I trust NSEA.		
	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

7. I trust NSEA's representative (the person you primarily interacted with).

	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

	To what extent do you agree with this statement?	How important is this attribute in your decision not to work with NSEA?
8. I have a strong relationship with the NSEA representative.		
	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

9. I believe NSEA or the NSEA representative can offer expert advice.

__ strongly agree
__ agree
__ disagree
__ strongly disagree

__ very important
__ important
__ slightly important
__ not important

If you wish, describe in more detail (optional):

10. NSEA understands my needs and goals.

__ strongly agree
__ agree
__ disagree
__ strongly disagree
__ do not know

__ very important
__ important
__ slightly important
__ not important

If you wish, describe in more detail (optional):

11. NSEA cares about my needs and goals.

__ strongly agree
__ agree
__ disagree
__ strongly disagree
__ do not know

__ very important
__ important
__ slightly important
__ not important

If you wish, describe in more detail (optional):

12. The NSEA representative understands my needs and goals.

__ strongly agree
__ agree
__ disagree
__ strongly disagree
__ do not know

__ very important
__ important
__ slightly important
__ not important

If you wish, describe in more detail (optional):

	To what extent do you agree with this statement?	How important is this attribute in your decision not to work with NSEA?
13. The NSEA representative cares about my needs and goals.		
	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important
	__ do not know	

If you wish, describe in more detail (optional):

14. In general, NSEA's goals are consistent with my goals.

	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

15. NSEA's work addresses threats I believe are important.

	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

16.The NSEA's representative can provide credible information on threats and opportunties that affect me.

	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

17. NSEA provided valuable information to me or someone I know prior to my deciding not to workwith them.

	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

18. There was adequate time to consider the program before I decided not to participate.

	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

	To what extent do you agree with this statement?	How important is this attribute in your decision not to work with NSEA?
19. I was given the opportunity to have input on the design/work/agreement.		
	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

20. I have confidence NSEA will be available long-term to help resolve problems or answer questions after the project is complete.

__ strongly agree	__ very important
__ agree	__ important
__ disagree	__ slightly important
__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

21. NSEA does not represent the government.

__ strongly agree	__ very important
__ agree	__ important
__ disagree	__ slightly important
__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

22. A neighbor, friend, or family member recommended I work with NSEA.

__ strongly agree	__ very important
__ agree	__ important
__ disagree	__ slightly important
__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

23. I believe NSEA has a long-term commitment to conservation.

__ strongly agree	__ very important
__ agree	__ important
__ disagree	__ slightly important
__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

24. I feel obligated to give back to NSEA because it has given something valuable to me in the past.

__ strongly agree	__ very important
__ agree	__ important
__ disagree	__ slightly important
__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

	To what extent do you agree with this statement?	How important is this attribute in your decision not to work with NSEA?
25. I feel obligated to work with NSEA because it has shown a history of supporting other groups or individuals I know.		
	__ strongly agree	__ very important
	__ agree	__ important
	__ disagree	__ slightly important
	__ strongly disagree	__ not important

If you wish, describe in more detail (optional):

26. NSEA is affiliated with other groups I respect.

__ strongly agree
__ agree
__ disagree
__ strongly disagree

__ very important
__ important
__ slightly important
__ not important

If you wish, describe in more detail (optional):

27. I will likely have the opportunity to modify the agreement or action in the future if needed.

__ strongly agree
__ agree
__ disagree
__ strongly disagree

__ very important
__ important
__ slightly important
__ not important

If you wish, describe in more detail (optional):

28. Could NSEA do anything to earn or increase your trust?

__ No
__ Yes

If you answered yes, please describe:

SECTION 3

Sometimes willingness/ability to trust is related to a person's worldview. The following questions relate to your worldview on people making decisions for themselves. Please indicate to what extent YOU agree and to what extent you believe the NSEA supports these statements as they relate to decisions about land use.

	To what extent do YOU agree with this statement?	**To what extent do you believe NSEA supports this statement?**
29. The government interferes far too much in our everyday lives.		
	__ strongly agree __ agree __ disagree __ strongly disagree	__ strongly agree __ agree __ don't know __ disagree __ strongly disagree
30. Sometimes government needs to make laws that keep people from hurting themselves.		
	__ strongly agree __ agree __ disagree __ strongly disagree	__ strongly agree __ agree __ don't know __ disagree __ strongly disagree
31. It's not the government's business to try to protect people from themselves.		
	__ strongly agree __ agree __ disagree __ strongly disagree	__ strongly agree __ agree __ don't know __ disagree __ strongly disagree
32. The government should stop telling people how to live their lives.		
	__ strongly agree __ agree __ disagree __ strongly disagree	__ strongly agree __ agree __ don't know __ disagree __ strongly disagree
33. The government should do more to advance society's goals, even if that means limiting the freedom and choices of individuals.		
	__ strongly agree __ agree __ disagree __ strongly disagree	__ strongly agree __ agree __ don't know __ disagree __ strongly disagree
34. Government should put limits on the choices individuals can make so they don't get in the way of what's good for society.		
	__ strongly agree __ agree __ disagree __ strongly disagree	__ strongly agree __ agree __ don't know __ disagree __ strongly disagree

Thank you for your time! If you would like a copy of the findings, please contact me at cunnina4@wwu.edu or contact Dr. Grace Wang at Grace.Wang@wwu.edu or (360) 650-3278.

Appendix C - Survey Responses, Close-Ended Questions

Conservation Opportunity Survey Data 5/4/2017

	Program	PartNonPart	ElectronicPaper	IDCode	Q2	Q3	Q4	Q5	Q6A	Q6I	Q7A	Q7I
1	WLT	P	Electronic	1151	1	N	notes	0	2	0	4	0
2	WLT	P	Electronic	1145	1	N	notes	3	5	3	5	3
3	WLT	P	Electronic	--	2	Y	notes	2	5	2	4	2
4	WLT	P	Electronic	1130	3	N	notes	2	5	2	5	2
5	WLT	P	Paper	1154	2	N		4	5	3	5	#NULL!
6	WLT	P	Electronic	1127	3	Y	notes	4	4	3	4	3
7	WLT	P	Electronic	1133	4	N	notes	3	5	3	5	2
8	WLT	P	Electronic	1160	1	Y	notes	2	4	3	4	2
9	WCD	P	Electronic	1542	4	N	notes	3	5	2	5	2
10	WCD	P	Electronic	1575	2	N	notes	2	5	3	4	3
11	WCD	P	Electronic	1548	4	N	notes	2	4	2	4	2
12	WCD	P	Electronic	1563	3	N	notes	2	4	2	5	3
13	WCD	P	Electronic	1539	2	N	notes	3	4	1	4	0
14	WCD	P	Electronic	1536	2	N	notes	0	5	3	5	3
15	WCD	P	Electronic	1584	1	N	notes	2	4	2	4	2
16	WCD	P	Paper	1560	2	N	notes	2	4	2	4	2
17	NSEA	P	Electronic	1342	2	N	notes	2	5	2	5	2
18	NSEA	P	Electronic	1357	4	N	notes	2	4	3	4	3
19	NSEA	P	Electronic	agatepond	4	Y	notes	2	5	3	5	3
20	NSEA	P	Electronic	1351	2	N	notes	3	5	3	5	3
21	NSEA	P	Electronic	1333	2	N	notes	3	5	3	5	3
22	NSEA	P	Electronic	1345	3	N	notes	2	4	3	5	3
23	NSEA	P	Electronic	1360	2	Y	notes	4	5	3	5	3
24	NSEA	P	Electronic	1372	2	N	notes	3	5	3	5	3
25	NSEA	P	Electronic	1393	1	N	notes	4	4	3	4	3
26	NSEA	P	Electronic	1369	3	N	notes	2	4	2	5	2
27	WC	P	Electronic	Chris	4	N	notes	2	4	3	5	3
28	WLT	N	Electronic	1620	1	N	notes	0	2	2	4	0
29	WCD	N	Paper	1629	4	N	notes	2	1	3	1	3

4 = much more important, 3 = somewhat more important, 2 = equally important, 1 = somewhat less important, and 0 = not important

5 = strongly agree, 4= agree, 3 = do not know 2 = disagree, and 1 = strongly disagree

4 = strongly agree, 3 = agree, 2 = disagree, 1 = strongly disagree

3 = very important, 2 = important, 1 = slightly important, 0 = not important

Q8A	Q8I	Q9A	Q9I	Q10A	Q10I	Q11A	Q11I	Q12A	Q12I	Q13A	Q13I	Q14A	Q14I	Q15A
2	0	1	0	3	0	3	0	3	0	3	0	4	1	3
2	1	4	2	5	3	5	3	4	2	5	2	4	3	4
3	2	3	2	4	2	4	2	4	2	4	2	4	2	3
3	1	3	2	4	2	5	3	4	2	5	2	4	3	2
3	3	3	2	5	3	5	3	4	2	5	3	4	2	4
2	1	3	1	5	3	4	2	4	2	4	2	5	3	3
3	2	4	3	5	3	5	2	4	2	5	2	5	3	4
2	1	3	2	4	3	4	3	4	3	4	3	4	3	3
4	2	4	3	4	2	5	2	5	2	5	2	4	2	4
3	2	4	3	4	2	4	2	5	2	4	2	5	3	4
3	2	4	3	4	2	4	2	5	2	4	3	4	2	3
4	3	4	3	5	3	4	2	5	3	4	2	5	3	4
2	0	3	2	4	2	4	2	4	3	4	2	2	0	3
3	1	3	3	4	2	4	1	4	3	4	2	5	3	4
3	2	3	2	4	2	4	2	4	2	4	2	4	2	3
3	2	3	1	4	2	3	#NULL!	3	#NULL!	3	#NULL!	4	2	3
4	2	4	3	4	2	4	2	4	2	4	2	5	2	4
2	3	3	2	2	2	4	2	2	2	4	2	4	2	3
3	3	4	3	5	3	4	2	4	2	4	2	5	3	4
4	3	4	3	5	3	5	3	5	3	5	3	5	3	4
4	3	4	3	5	3	5	3	5	3	5	3	4	2	3
3	3	3	2	4	1	4	2	4	2	4	2	4	2	3
3	1	4	3	4	2	3	2	4	2	3	2	4	1	4
2	2	3	2	5	2	4	2	4	2	4	2	4	2	3
3	3	3	3	3	3	3	3	4	3	4	3	4	3	3
2	1	3	1	4	2	4	2	4	2	4	2	4	2	3
4	3	3	2	4	3	4	2	4	3	4	3	4	3	3
2	2	3	0	2	2	2	2	2	2	2	2	2	2	2
2	3	3	3	1	2	2	#NULL!	3	#NULL!	3	1	2	3	1

4 = much more important, 3 = somewhat more important, 2 = equally important, 1 = somewhat less important, and 0 = not important

5 = strongly agree, 4= agree, 3 = do not know 2 = disagree, and 1 = strongly disagree

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3 = very important, 2 = important, 1 = slightly important, 0 = not important

Q15I	Q16A	Q16I	Q17A	Q17I	Q18A	Q18I	Q19A	Q19I	Q20A	Q20I	Q21A	Q21I	Q22A	Q22I
0	2	0	2	0	4	0	4	3	2	1	4	0	1	0
3	4	3	4	3	4	1	4	2	4	2	4	1	1	1
2	#NULL!	#NULL!	#NULL!	#NULL!	3	2	3	2	3	2	#NULL!	#NULL!	#NULL!	#NULL!
1	4	1	3	1	4	2	4	3	3	2	4	2	3	3
3	4	3	3	2	4	3	3	2	3	2	4	3	3	2
1	3	2	4	3	4	3	4	3	4	3	3	3	1	3
3	4	3	3	2	4	1	4	3	4	3	4	0	2	1
3	2	3	3	1	2	3	4	3	3	3	4	2	4	3
2	4	3	3	2	4	3	4	3	4	2	2	0	1	0
3	3	1	3	3	4	1	4	3	3	3	3	3	2	1
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2	3	2	3	2	3	1	3	2	4	3	2	0	3	2
1	3	1	3	2	4	1	4	3	#NULL!	1	2	3	2	0
3	4	3	4	3	4	1	4	3	4	1	4	0	1	0
2	3	2	3	2	#NULL!	#NULL!	#NULL!	#NULL!	#NULL!	#NULL!	#NULL!	#NULL!	#NULL!	#NULL!
1	#NULL!	#NULL!	#NULL!	#NULL!	3	#NULL!	3	2	#NULL!	#NULL!	#NULL!	#NULL!	#NULL!	#NULL!
2	4	2	3	2	3	2	4	3	3	2	4	1	4	1
2	3	2	2	2	3	2	3	3	3	2	3	3	2	2
3	4	2	3	1	4	3	3	2	4	3	2	0	1	0
3	4	3	4	3	3	3	3	2	4	3	#NULL!	#NULL!	1	0
2	3	2	4	3	3	3	3	1	4	3	4	2	4	3
2	3	2	3	2	4	2	3	2	4	2	3	2	2	0
2	3	1	2	0	4	1	4	3	3	1	3	0	1	0
2	3	2	3	2	3	2	3	2	3	1	3	2	2	2
3	3	3	3	3	3	2	3	3	3	1	4	3	4	3
2	2	0	3	1	3	0	3	3	3	1	4	3	2	0
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2	3	1	2	2	3	0	2	2	2	2	2	2	2	0
3	2	3	3	3	3	3	3	3	3	2	2	3	1	0

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Q23A	Q23I	Q24A	Q24I	Q25A	Q25I	Q26A	Q26I	Q27A	Q27I	Q29Ind	Q29Pro	Q30Ind	Q30Pro	Q31Ind
3	2	2	0	3	1	3	0	2	0	2	3	3	3	2
4	#NULL!	3	2	3	2	4	2	2	3	3	3	3	3	2
3	#NULL!	#NULL!	#NULL!	#NULL!	#NULL!	4	3	#NULL!	#NULL!	#NULL!		#NULL!		#NULL!
4	3	2	#NULL!	4	2	#NULL!	#NULL!	3	2	2	3	3	3	2
4	3	3	2	2	1	3	2	4	3	2	3	3	4	2
4	3	3	2	4	2	2	0	1	2	4	3	1	3	4
4	3	3	1	4	2	3	1	4	2	2	2	3	4	2
4	3	3	1	2	1	4	3	3	3	2	3	4	5	1
4	3	3	2	2	1	3	1	2	0	2	2	3	4	2
3	3	3	1	2	0	3	1	2	0	2	3	3	3	2
4	1	2	0	1	2	3	2	1	0	3	3	3	3	2
3	2	3	1	3	1	3	1	2	0	2	5	4	1	2
4	1	2	0	3	2	2	0	1	0	4	3	2	3	4
4	3	1	0	1	0	4	0	2	1	3	2	3	2	2
#NULL!	#NULL!	#NULL!	#NULL!	#NULL!	#NULL!	#NULL!	#NULL!	#NULL!	#NULL!	2	4	3	4	2
3	#NULL!	3	1	2	#NULL!	#NULL!	#NULL!	2	#NULL!	2	3	2	3	3
4	2	3	1	3	1	3	1	4	2	2	3	3	3	2
3	2	2	0	2	0	3	0	4	3	4	3	2	3	4
4	2	3	2	2	1	3	1	2	1	1	3	4	5	2
4	3	#NULL!	#NULL!	#NULL!	#NULL!	4	0	#NULL!	#NULL!	3	2	4	3	2
4	3	3	2	3	2	3	2	3	1	2	3	3	3	2
3	2	2	0	2	0	2	0	3	0	3	2	1	4	4
4	1	4	0	1	0	2	0	3	2	3	3	2	3	3
4	3	2	0	2	0	2	1	3	2	3	3	2	3	3
4	2	3	2	2	1	3	2	4	3	4	5	3	3	3
3	2	3	0	2	0	2	1	4	3	4	3	2	3	4
3	3	3	2	3	2	3	3	4	3	4	4	3	3	3
3	0	3	0	2	0	3	0	2	2	3	2	3	4	2
1	3	1	3	2	3	2	3	2	3	4	5	1	3	4

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5 = strongly agree, 4= agree, 3 = do not know 2 = disagree, and 1 = strongly disagree

4 = strongly agree, 3 = agree, 2 = disagree, 1 = strongly disagree

3 = very important, 2 = important, 1 = slightly important, 0 = not important

Q31Pro	Q32Ind	Q32Pro	Q33Ind	Q33Pro	Q34Ind	Q34Pro
3	2	3	2	3	2	3
3	2	3	3	3	3	3
	#NULL!		#NULL!		#NULL!	
3	3	3	3	3	3	3
3	3	4	3	4	2	3
3	4	3	1	3	1	3
2	1	2	3	3	3	3
2	1	2	4	4	4	4
2	2	2	3	4	3	4
3	3	3	1	1	1	3
3	3	3	2	2	3	3
5	2	5	2	2	3	1
2	4	2	1	1	1	4
3	2	3	3	4	3	3
3	2	3	2	2	3	3
	2	3	3	3	3	3
3	3	3	3	3	3	3
3	4	3	1	3	1	3
2	1	1	4	3	4	3
3	2	3	1	3	3	3
3	2	3	3	3	2	3
2	4	2	1	2	1	2
3	3	3	2	3	2	3
3	3	3	2	3	2	3
4	4	5	1	3	2	3
3	3	3	1	3	2	3
3	3	3	2	2	2	3
2	2	2	3	4	3	4
3	4	3	2	3	1	3

4 = much more important, 3 = somewhat more important, 2 = equally important, 1 = somewhat less important, and 0 = not important

5 = strongly agree, 4= agree, 3 = do not know 2 = disagree, and 1 = strongly disagree

4 = strongly agree, 3 = agree, 2 = disagree, 1 = strongly disagree

3 = very important, 2 = important, 1 = slightly important, 0 = not important

Appendix D - Survey Responses, Open-Ended Questions

Conservation Opportunity Open-Ended Survey Coding

Coding for Question 4:

1 - Financial Pressures
income, access to resources, cost, benefit to landholder

2 - Governance
organization has power to take action, policies, process of decision-making, power to make decisions

3 - Family Structure
marital status, number of children, and succession, family demands

4 - Geography
land size and location

5 - Attitudes
something is disfavored or favored, value of conservation, "bad" "good"

6 - Values
production vs conservation, value of farming, identify as a farmer, value fish, value conservation

7 - Beliefs
believe in eco-crisis, believe there is threat to environment/farming

8 - Norms
conforming, self-image, and brand loyalty

9 - Personalities
introversion, risk aversion, and control

10 - Trust
someone or something is good, reliable, honest, and effective, relationship with someone, believe someone has expertise

Coding for Question 28:

1 - Personal Relationship
relationship with staff, recommendation from neighbor/friend/family

2 - Social Structure
offers expert advice, provides credible info on threats, connection with another organization

3 - Reciprocity
history of providing info, giving back, obligation

4 - Shared Worldview
share goals, shared view of community

5 - Social Commitment
long-term availability, long-term commitment to conservation

6 - Participation in Decision-Making
time to evaluate program, can have input, involved early

Conservation Opportunity Open-Ended Survey Responses

Question 4: There may be many reasons why you decided to work with the organization. What were the two most important reasons for you?

Coding JW	Coding AB	Program	PartNonPart	IDCode	Answers
2,9,10	10	WLT	P	1160	Longevity and Professionalism. This is supposed to last forever so I wanted it to be with a group that I thought had the best chance of being around for the long haul.
1,6,7	6, 2	WLT	P	1133	Conservation easement option available Agreement with overall mission of WLT
1,4,6,7,9	1, 6	WLT	P	1127	Preserving my property as ag land and keeping it from being developed and a road being built by the city of Lynden which as an LID, I would have to pay for, with no benefit to me. Preserving the Historical value of the property which has the oldest remaining home (1888) in Lynden and is part of the original homestead of Phoebe Judson the mother of Lynden and first white woman to settle in the area.
5,6,7,9	6	WLT	P	1130	save the conifer trees from future harvesting protect my personal Shangri-La for future generation
5,6	6	WLT	P	1157	Preserve the trees
1,2,9	1	WLT	P	don't have one	Conservation Avoiding legal costs to correct county's mistake in naming owners on title
1,5,6,7,9,10	10, 6	WLT	P	1145	1) WLT was the most visible organization protecting the land around us -- if not the only one which had a program most suitable for our circumstances; 2) All the members of the WLT which we met or worked with have been upstanding people who shared our ethic concerning protecting the land and it's attributes, such as service as wildlife corridors between other pieces of protected land (which were protected either by WLT or by the state DNR. The ethos of the organization and all associated--staff and board--was critical.
4,8	2	WLT	P	1151	It was the only land trust available.
1,10	1, 10	WCD	P	1542	1. I have work with the WCD in past projects 2. Financial incentive for participating in the CREP project
10	10	WCD	P	1575	Quality of work, and depth of knowledge
10	10	WCD	P	1548	Knew Wayne, Chuck and Beth They had previously been to my farm and were familiar with my farming methods
1,9,10	6	WCD	P	1563	Current and future protection of Dakota Creek which passes through my property, considering that future owners may not be as protective. Improve pasture management through interaction with the CREP agents.
10	2	WCD	P	1539	They were the contact for this program
8	2	WCD	P	1530	Only one reason: The WCD runs CREP projects and I wanted a CREP project done on my land.
1,6	1, 6	WCD	P	1536	1.We wanted to restore the riparian areas on our property 2.Financial incentive
8	2	WCD	P	1584	They are the agency which administers CREP. They are a local agency.
8	10	WCD	P	1545	Local Available information re organization
6	6	WCD	P	1569	Salmon stream enhancement was only reason
10	10	WCD	P	1548	Knew Wayne Chuck and Beth Worked with wcd previously
5,6,7	7	NSEA	P	1342	I had heard of NSEA stream enhancement program and was impressed. Restoring salmon runs is critical.
1	1	NSEA	P	1357	scope of work done and financing provided by a grant obtained by NSEA to do the work
2,5	10, 8	NSEA	P	agatepond	Track record, knowledge of permit process, desire to support a conservation organization
10	10	NSEA	P	1351	Due to the circumstances of my situation, my initial contacts with County River & Flood and Joel Ingram of Fish & Wildlife led me to pertinent assistance with Darrell Gray of NSEA.

1	1	NSEA	P	1333	1. They were the first to offer their services. 2. They offered to build a bridge at our expense (materials) in exchange for restoration of the creek.
1,8,10	1, 10	NSEA	P	1345	He pursued me and kept touching base with me. He convinced me that it was going to be a benefit to me and the salmon and wasn't going to cost me a bunch of $.
2,10	2, 10	NSEA	P	1360	control over projects / land expert information
6,7	6	NSEA	P	1375	Conservation
10	10	NSEA	P	1372	NSEA was highly recommended.
1,6	6	NSEA	P	1393	Property enhancement, native plant life
2,10	10	NSEA	P	1369	They could work with govt agencies on my behalf
	6	WC	P	Chris	To preserve the land for agriculture for our generation and future generations
	2	WLT	N	1620	The suggestions were too cumbersome and not flexible enough.

Question 28: Could the organization do anything to earn your trust?

Coding JW	Coding AB	Program	PartNonPart	IDCode	Answers
5	5	WLT	P	1160	Perhaps making twice yearly visits so as to ensure that the area is not being abused. I realize this costs them money but it would make me feel better once I an dead and buried and cannot check myself any longer.
		WLT	P	1133	
		WLT	P	1127	
		WLT	P	1130	
		WLT	P	1157	
		WLT	P	don't have one	
		WLT	P	1145	Only what I mentioned in my answer to question 27. Otherwise I trust the WLT very much and they don't have to do anything more to earn or increase my already high trust in them.
	5	WLT	P	1151	Work to improve state code to bring land trust language into better compliance with national code and thereby authorize land trust work in this state more clearly. Work more diligently with landowners to protect the property after it's protected. Develop and implement a consistent, clear strategy for land protection goals and objectives.
		WCD	P	1542	
		WCD	P	1575	
2,3,4,6	1, 6	WCD	P	1548	The real answer here is no because I am ok with the WCD and their staff. I wanted to note that I worked for local government for over 30 years and my best friend retired from SCS/NRCS in Oregon after a very successful 35 year career.. I knew about SCS programs and Conservation district programs long before I ever worked with WCD. I also had spent days walking through CRP and CREP projects in Oregon and listening to my friend explain how the programs worked and what they were designed to do. Add to that, knowing people at the local conservation district through my work and farming, made trust a pretty easy thing. I have a an inside track to how government functions and the limitations on what can be done when an agency does not get to pick and choose its clients like a private business does I am also aware of the limitations created by funding tied to specific program standards. Most of my land owning/farming peers do not understand how government works or funding limitations set by congress, state legislatures or local county council representatives. What they see is a big government machine telling them what they have to do.To a small extent, the nice folks at the WCD (though extremely helpful) get knocked because they have to follow the program standards set out in rule or controlled by funding.

2,6	4	WCD	P	1563	Trustees/members of the board could be more diverse, in encouraging small farm operators and organic farmers to join the board. It needs updating in composition that would allow a wider range of operations. I believe the members feel threatened by alternative farm operations, as well as current issues concerning water rights and quality. They are rather a "closed club".
		WCD	P	1539	
		WCD	P	1530	
		WCD	P		
		WCD	P		
		WCD	P		
		WCD	P	1536	
		WCD	P	1584	
		WCD	P	1545	
		WCD	P	1569	
		WCD	P	1548	
1,2	1	NSEA	P	1342	Darrell Gray has been attentive, respectful and a collaborative partner. He is brings a wonderful blend of intellect and hard hands-on work to the NSEA.
	5	NSEA	P	1357	finish the job after 16 years and remove the plastic tree collars
		NSEA	P	agatepond	
4,5		NSEA	P	1351	Trust once established will remain unchanged.
		NSEA	P	1333	
		NSEA	P	1345	
		NSEA	P	1360	
		NSEA	P	1375	
2,5,6	6	NSEA	P	1372	NSEA did an excellent job on my property from start to completion of the project. I was well informed of everything during this process. Highly recommend this organization. Jamey L. Forss
6	6	NSEA	P	1393	Better communication about size of groups entering the project on my property.
		NSEA	P	1369	
	6	WC	P	Chris	Continue to be trustworthy and transparent with me as a landowner and with others who are interested in this program.
	6	WLT	N	1620	The rep was nice, but everything was laid out when we first met without any thoughts or feedback from me. They could gain my trust if they sat down and listened to my desires and concerns and then tailoring the plan to that. I felt it was their way or nothing. Since I didn't particularly like what they offered I never heard anything again. If they were open to reasonable discussion they could have my trust.